

GRADUATE CATALOG

1996-1997

UNIVERSITY OF SOUTH FLORIDA

The Mission of the Graduate School at the University of South Florida is to exercise leadership in policy and decision making relative to graduate education; promote intellectual excellence and innovation in graduate education, research and scholarly activities; and encourage multi-disciplinary teaching and research activities among students and faculty. In pursuing this mission, the University of South Florida will be the First Choice of students who seek a quality graduate education and of a faculty who actively seek to extend the frontiers of knowledge through critical study, research, and scholarship.

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University of South Florida
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CONTENTS

UNIVERSITY ADMINISTRATION	1
ACADEMIC CALENDAR	2
DEGREE PROGRAMS	4
CONTACTING THE UNIVERSITY	6
ABOUT THE UNIVERSITY OF SOUTH FLORIDA	7
Accreditation	7
The Graduate School	7
Graduate Faculty	7
Academic Programs at Regional Campuses	8
GRADUATE ADMISSIONS/REGISTRATION	9
Admission Criteria	9
Procedures for Applying	10
Students with Disability	10
International Applicants	10
Testing Information	11
Registration	12
Immunization Requirement	12
Non-Degree Seeking Students	12
ACADEMIC POLICIES AND PROCEDURES	14
General Information	14
The Graduate Catalog	14
Official Academic Record	15
Course Attendance	15
Drop/Add/Withdraw	15
Grades and Academic Standards	16
Enrollment Requirements	17
Application for Degree	18
Appeals	18
GENERAL DEGREE REQUIREMENTS	19
The Master's Degree	19
The Doctoral Degree	21
FINANCIAL INFORMATION	24
Florida Residency	24
Fees	25
Assistantships or Associateships	27
Fellowships, Grants and Scholarships	27
Tuition Waivers	28
STUDENT SERVICES AND ACTIVITIES	29
ACADEMIC SERVICES AND SUPPORT	39
University Libraries	39
Office of Research	39
University Computing Services	40
SCHOOL OF ARCHITECTURE AND COMMUNITY DESIGN	43
COLLEGE OF ARTS AND SCIENCES	45
Graduate Degree Programs	45
American Studies (AMS)	46
Anthropology (ANT)	46

Biology (BIO/BOT/MIC/ZOO)	48
Chemistry (CHA/CHM)	50
Classics (CLA)	53
Communication (SPE)	53
Communication Sciences and Disorders (AUD/ARH/SPP)	54
Criminology (CCJ)	56
English (ENG)	58
Geography (GPY)	60
Geology (GLY)	60
Gerontology (GEY)	62
Aging Studies (Interdisciplinary Ph.D.)	63
History (HTY)	64
Humanities and American Studies (MLA/AMS)	65
Interdisciplinary Social Sciences (ISS)	67
Languages and Linguistics (FRE/SPA/LIN)	67
Library and Information Science (LIS)	68
Marine Science (MSC)	69
Mass Communications (COM)	71
Mathematics (MTH)	72
Philosophy (PHI)	74
Physics (PHY/PHZ)	76
Political Science (POL)	77
Psychology (PSY)	79
Public Administration (PAD)	80
Rehabilitation Counseling (REH/REF)	83
Religious Studies (REL)	84
Social Work (MSW)	85
Sociology (SOC)	87
Women's Studies (WST)	87
COLLEGE OF BUSINESS ADMINISTRATION	88
Degrees Offered	88
General Program Information	88
Master's Degree Programs	89
Doctoral Programs	89
The Master of Business Administration (M.B.A.)	92
The Master of Accountancy (M.Acc.)	94
The Executive M.B.A.	95
M.B.A. Program for Physicians	96
The Master of Arts in Economics (M.A.)	97
The Master of Science in Management (M.S.)	98
Organizations and Centers	99
COLLEGE OF EDUCATION	101
Departments and Programs	101
Master's Degree Programs	102
Educational Specialist (Ed.S.)	105
Doctor of Philosophy (Ph.D.)	106
Doctor of Education (Ed.D.)	107
Adult & Vocational Education and Human Resource Development	107
Childhood/Language/Arts/Reading Education	111

Educational Leadership	115
Educational Measurement and Research	117
Music Education Program	119
Physical Education, Wellness, and Sport Studies	119
Psychological and Social Foundations of Education	119
School Psychology Programs	120
Secondary Education	124
Instructional Technology	127
Special Education	130
Student Organizations	133
COLLEGE OF ENGINEERING	134
Graduate Degree Programs	134
Master's Degree Programs in Engineering	134
General Program Requirements	136
Doctoral Programs	137
Chemical Engineering	139
Biomedical Engineering and Engineering Biotechnology	139
Civil and Environmental Engineering	140
Computer Science and Engineering	142
Electrical Engineering	142
Industrial and Management Systems Engineering	143
Mechanical Engineering	144
College Facilities	145
COLLEGE OF FINE ARTS	148
General Program Information	148
Master of Fine Arts (M.F.A.)	149
Master of Arts (M.A.)- Art History	150
Master of Arts (M.A.) - Art Education	151
Master of Music Degree (M.M.)	151
Master of Arts (M.A.) – Music Education	152
Ph.D. in Curriculum and Instruction – Music Education	153
College Activities and Events	153
COLLEGE OF MEDICINE	155
Doctor of Philosophy (Ph.D.) Medical Sciences	155
Major Research Areas	156
COLLEGE OF NURSING	158
Master of Science in Nursing	158
Joint Degree Program (M.S./M.P.H) In Occupational Health Nursing	160
COLLEGE OF PUBLIC HEALTH	161
Graduate Degrees Offered	161
General Program Requirements	162
Doctor of Philosophy (Ph.D.)	163
Department of Community and Family Health	165
Department of Epidemiology and Biostatistics	168
Department of Environmental and Occupational Health	171
Department of Health Policy and Management	174
COURSE DESCRIPTIONS	177
INDEX	344

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ACADEMIC CALENDAR

These dates are accurate as of date of publication. Please check each semester's *University Class Schedule* for any changes.

Summer Term 1996--Session A

Jan. 2	Mon.	Last day for international applicants to apply for admission and submit supporting documents.
March 1	Fri.	Last day for graduate students to apply for admission (exception international students)
May 13	Mon.	Classes begin
May 17	Fri.	Last day to withdraw/drop from courses and receive full refund of registration fees
May 17	Fri.	Last day to add courses, late register and pay fees
May 27	Mon.	Memorial Day Holiday
May 31	Fri.	Last day to withdraw/drop from courses without penalty
June 7	Fri.	Graduate application deadline
June 21	Fri.	Last day of classes
June 28	Fri.	Thesis and dissertation DRAFTS due for format check
July 19	Fri.	Last day to submit dissertations
July 26	Fri.	Last day to submit theses/Ed.S. projects

Summer Term 1996--Session B

Jan. 2	Mon.	Last day for international applicants to apply for admission and submit required credentials and supporting documents.
March 1	Fri.	Last day for graduate students to apply for admission (exception international students)
June 7	Fri.	Graduation Application deadline
June 28	Fri.	Thesis and dissertation DRAFTS due for format check
July 1	Mon.	Classes begin
July 4	Thur.	Independence Day Holiday
July 5	Fri.	Last day to withdraw/drop from courses and receive full refund of registration fees
July 5	Fri.	Last day to add courses, late register and pay fees
July 19	Fri.	Last day to withdraw/drop from courses without penalty
July 26	Fri.	Last day to submit dissertations

Summer Term 1996--Session C

Jan. 2	Mon.	Last day for international applicants to apply for admission and submit required credentials and supporting documents.
March 1	Fri.	Last day for graduate students to apply for admission (exception international students)
May 17	Fri.	Last day to withdraw/drop from courses and receive full refund of registration fees
May 17	Fri.	Last day to add courses, late register, and pay fees
May 27	Mon.	Memorial Day Holiday
June 7	Fri.	Graduation application deadline
June 21	Fri.	Last Day to withdraw/drop from courses without penalty
June 28	Fri.	Thesis and dissertation DRAFTS due for format check
July 4	Thur.	Independence Day Holiday
July 19	Fri.	Last day of classes
July 19	Fri.	Last day to submit dissertations
July 26	Fri.	Last day to submit theses/Ed.S. projects

Fall Semester 1996

March 1	Fri.	Last day for international applicants to apply for admission and submit supporting documents.
June 1	Sat.	Fall 1996 Application deadline
Aug. 26	Mon.	First day of class
Aug. 30	Fri.	Last day to withdraw/drop from courses and receive full refund of registration fees
Aug. 30	Fri.	Last day to add courses
Aug. 30	Fri.	Last day for late registration
Aug. 30	Fri.	Last day to pay fees
Sept. 2	Mon.	Labor Day Holiday
Sept. 20	Fri.	Graduation application deadline
Oct. 25	Fri.	Last day to withdraw/drop from courses without penalty
Nov. 1	Fri.	Thesis and dissertation DRAFTS due for format check
Nov. 11	Fri.	Veterans Holiday
Nov. 28-29	Thur.-Fri.	Thanksgiving Holiday
Dec. 2	Mon.	Last day to submit dissertations
Dec. 6	Fri.	Last day to submit theses/Ed.S. Projects
Dec. 10	Tue.	Last day of classes
Dec. 11-17	Wed.-Thur.	Final exams
Dec. 15	Sun.	Commencement (Tampa)

Spring Semester 1997

August 1	Thur.	Last day for international applicants to apply for admission and submit supporting documents.
Oct 15	Tue.	Spring 1997 application deadline
Jan. 6	Mon.	First day of class
Jan. 10	Fri.	Last day to withdraw/drop from courses and receive full refund of registration fees
Jan. 10	Fri.	Last day to add courses
Jan. 10	Fri.	Last day for late registration
Jan. 10	Fri.	Last day to pay fees
Jan. 20	Mon.	Martin Luther King Holiday
Feb. 7	Fri.	Graduation application deadline
March 7	Fri.	Last day to withdraw/drop from courses without penalty
March 10-14	Mon.-Fri.	Spring Break
March 14	Fri.	Thesis and dissertation DRAFTS due for format check
April 11	Fri.	Last day to submit dissertations
April 18	Fri.	Last day to submit theses/Ed.S. Projects
April 23	Wed.	Last day of classes
April 24-30	Thur.-Wed.	Final exams
April 26	Sat.	Commencement (Tampa)

DEGREE PROGRAMS

	Page	College	Master's	Ph.D.	Ed.D
Accountancy	94	BUS	■		
Adult Education	107	EDU	■		
Aging Studies	63	A&S		■	
American Studies	46	A&S	■		
Anthropology, Applied	46	A&S	■	■	
Architecture	43	ARCH	■		
Art	149	FA	■		
Art Education	126	EDU	■		
Art History	150	FA	■		
Audiology	54	A&S	■		
Biology	48	A&S		■	
Botony	48	A&S	■		
Business Administration	88	BUS	■	■	
Chemistry	50	A&S	■	■	
Chemical Engineering	139	ENG	■	■	
Civil Engineering	140	ENG	■	■	
Classics	53	A&S	■		
Communication	53	A&S	■	■	
Computer Engineering	142	ENG	■		
Computer Science	142	ENG	■	■	
Counselor Education	29	EDU	■		
Criminology	56	A&S	■		
Curriculum & Instruction*	101f	EDU	■	■	
Economics	97	BUS	■		
Educational Leadership	115	EDU	■		■
Educ. Program Develop.*	101f	EDU			■
Electrical Engineering	142	ENG	■	■	
Elementary Education	111	EDU	■		
Engineering	134	ENG	■		
Engineering Management	143	ENG	■		
Engineering Science	134	ENG	■	■	
English	58	A&S	■	■	
English Education	126	EDU	■		
Executive M.B.A.	95	BUS	■		
Foreign Lang. Education	127	EDU	■		
French	67	A&S	■		
Geography	60	A&S	■		
Geology	60	A&S	■	■	
Gerontology	62	A&S	■		
* College of Education offers a variety of graduate curricula under this designation					

DEGREE PROGRAMS

	Page	College	Master's	Ph.D	Ed.D
Health Administration*	161f	PH	■		
History	64	A&S	■		
Industrial Engineering	143	ENG	■	■	
Junior College Teaching	117	EDU	■		
Liberal Arts	65	A&S	■		
Library and Info. Science	68	A&S	■		
Linguistics	67	A&S	■		
Linguistics, Applied	67	A&S	■		
Management	98	BUS	■		
Marine Science	69	A&S	■	■	
Mass Communications	71	A&S	■		
Mathematics	72	A&S	■	■	
Mathematics Education	126	EDU	■		
Mechanical Engineering	144	ENG	■	■	
Medical Science	155	MED		■	
Microbiology	48	A&S	■		
Music	151	FA	■		
Music Education	152	EDU	■		
Nursing	158	NUR	■		
Philosophy	74	A&S	■	■	
Physical Education	119	EDU	■		
Physicians, MBA	96	BUS	■		
Physics	76	A&S	■		
Political Science	77	A&S	■		
Psychology	79	A&S	■	■	
Public Administration	80	A&S	■		
Public Health*	161f	PH	■	■	
Reading Education	111	EDU	■		
Rehabilitation, Aural	54	A&S	■		
Rehabilitation Counseling	83	A&S	■		
Religious Studies	84	A&S	■		
School Psychology	120	EDU		■	
Science Education	129	EDU	■		
Social Science Education	130	EDU	■		
Social Work	85	A&S	■		
Sociology	87	A&S	■		
Spanish	67	A&S	■		
Special Education	136	EDU	■		
Speech-Lang. Pathology	54	EDU	■		
Vocational Education	107	EDU	■		
Zoology	48	A&S	■		
* College of Public Health offers a variety of graduate curricula under this designation					

CONTACTING THE UNIVERSITY

Applications and Admissions

Office of Graduate Admissions, SVC 1036	974-3350
College of Medicine: Director of Admissions, MDC Box 3	974-2229

Career Counseling SVC 2124	974-2831
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Career Resource Center

Alumni Placement Services, SVC 2088	974-2171
Career Planning and Advising, SVC 2088	974-2171

Continuing Education Courses

Registration, SVC 1034	974-2000
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Counseling SVC 2124	974-2831
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Disabled Student Academic Service SVC 2043 --- (VOICE)(TDD)	974-4309
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Financial Assistance (scholarships, loans, employment)

Office of Student Financial Aid, SVC 1102	974-4700
Office of Student Employment, SVC 1102	974-2298

Graduate School , FAO 126	974-2846
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Health Services SHS 100	974-2331
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International Students and Scholar Services CTR 259	974-5102
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Library Resources:

Library Information, LIB 122	974-2727
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Tampa Campus: Director of Libraries, LIB 207	974-2721
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Fort Myers Campus: ECC/USF Learning Resources Center	489-9220
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St. Petersburg Campus: University Librarian, POY 118	893-9125
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Sarasota Campus: Office of the Librarian	359-4300
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Minority Graduate Student Advising FAO 126	974-2846
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Parking Services , PSB 101	974-2628
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Records, Registration SVC 1034	974-2000
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Student Affairs ADM 151	974-2151
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Transcripts (USF)

Office of the Registrar, SVC 1034	974-2000
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Veterans Services SVC 2127	974-2291
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ABOUT THE UNIVERSITY OF SOUTH FLORIDA

The University of South Florida, one of the new universities created in the 20th century, is driving higher education on a fast track into the next millennium. You won't find weighty tradition here—rather a boundless optimism, vitality, and can-do attitude indicative of its youth.

The 18th largest university in the United States and still growing, USF has built a solid reputation as a leader in learning by offering comprehensive state-of-the-art, student-centered programs. With growing prestige and a dedicated faculty, including 73 Fulbright Scholars and 42 endowed chairs, USF has become a research powerhouse. In 1995, it surpassed the \$100 million mark in sponsored research, contracts, and grants and is fast becoming the model urban research university for the 21st century.

Located in vibrant Tampa Bay, one of the fastest-growing metropolitan areas of the nation, USF has formed vital partnerships with business leaders and organizations throughout the region and contributed to the well-being of its immediate urban neighborhoods through vast networks of social research and service projects.

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.

A measure of the University's success is the nature of its academic programs. Through them, USF seeks to serve an increasingly urban state and nation. USF offers master's degrees in more than 80 programs and areas; and 24 separate doctoral degrees.

Accreditation

The University of South Florida is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the Baccalaureate, master's, specialist and doctoral levels, including the Doctor of Medicine. A self study of the University's programs and purposes, periodically required for continued accreditation, was reaffirmed in January 1994.

The Graduate School

The Graduate School has jurisdiction over all graduate programs on all campuses of the University of South Florida. In that role, the Dean of the Graduate School works with the Graduate Council, the College and Campus Deans, and other constituencies and groups to assure high academic standards and promote excellence in teaching, research, and scholarship.

Graduate Faculty

Faculty participation beyond the classroom and laboratory is essential to ensuring quality graduate education and equity across all programs. Faculty achieve the distinction of being members of the Graduate Faculty by being recommended by their respective departments and by the credentialing committees and deans of their colleges. Recommendation is based on university-wide criteria, supplemented by departmental or college criteria.

Responsibilities of the Graduate Faculty include establishing and maintaining a high quality graduate education and research experience for students, developing and teaching graduate-level courses, advising graduate students, serving on master's and doctoral committees, directing theses and dissertations, serving on college or departmental graduate committees, and providing advice to the Dean and the Graduate Council.

The Graduate Faculty are represented in the Graduate School through the Graduate Council, which is central to the goal of maintaining and assuring quality across all graduate programs. The Graduate Council, a standing council of the Faculty senate, is composed of credentialed Graduate Faculty who mirror the range and diversity of graduate programs at USF. The Graduate Council formulates policies and practices for graduate programs and reviews matters arising from questions about the integrity of academic programs, admissions standards, degree requirements, and similar concerns.

Academic Programs at Regional Campuses

The University of South Florida has five regional campuses at Lakeland, St. Petersburg, Sarasota (including New College), and Fort Myers. Selected graduate programs and courses are offered by the Colleges of Arts and Sciences, Business Administration, Education, Engineering, and Nursing. Students may enroll part-time or full-time on any of the campuses, and may also 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 from other USF campuses, thereby bringing additional scope to academic programs and university services.

USF in **Lakeland** shares the Lakeland Center with Polk Community College. Located on County Road 540 near US Highway 98, the Lakeland Center provides educational programs to students living in Polk, Highlands, and Hardee counties.

USF at **Fort Myers** offers graduate degree programs in the Colleges of Business, Education, Arts and Sciences, and Nursing. Selected course offerings from other colleges within the University are also available. The campus is located on a 55-acre site adjacent to Edison Community College in south Fort Myers.

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 undergraduate liberal arts college. The University Programs emphasize junior, senior, and graduate courses, offering degrees in Business, Education, Engineering, Arts and Sciences, and Nursing. 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 **St. Petersburg** is the second oldest campus, and has offered upper level and graduate courses since 1968. The St. Petersburg Campus houses facilities for marine science research and training. The Department of Marine Science 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. The location of the campus at the central edge of the continental shelf of the Gulf Coast and in the midst of the metropolitan Sun Coast is a unique advantage. The Florida Institute of Oceanography, a research institute of the SUS, is also located on the St. Petersburg Campus.

GRADUATE ADMISSIONS/REGISTRATION

Admission Criteria

Students who seek admission to a graduate degree program as first-time or transfer graduate students shall be required to meet minimum State University System requirements. *However, meeting minimum admissions requirements does not guarantee admission to a particular program. Individual programs may set additional or more selective requirements. Also, because some programs accept only a limited number of students, or do not have the faculty or facilities to accommodate a student's particular area of study, many applicants who exceed minimum requirements may not be accepted. Higher admission requirements are listed in the appropriate sections in this Catalog or can be obtained by contacting the program.*

In order to be considered for admission, a first-time graduate student or a student transferring from a graduate program at another university must:

- A. have a bachelor's degree or equivalent from a regionally accredited university,
- B. take the Graduate Record Examination (GRE) or an equivalent measure approved by the Board of Regents (BOR) within five years preceding application, and
- C. 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 verbal plus quantitative GRE General Test score of 1000 or higher, or an equivalent score on an equivalent measure approved by the BOR, taken within five years preceding application.

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.

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 plus verbal portions 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 as an upper division student working for a baccalaureate degree.

Applicants denied admission will be given timely notice in writing, including the reason(s) for denial. Denied applicants who meet the minimum systemwide standards may write the director of the program applied to within 30 days of the date of denial to request reconsideration. The request should explain why reconsideration is warranted, and the student should present additional evidence of potential for academic success at USF.

Procedure for Applying

Application forms for graduate study may be obtained from the Office of Admissions. The University accepts applications as early as one year in advance; therefore, prospective *students are advised to apply early*. Applicants whose credentials are not received by the deadline (see Academic Calendar) 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.

1. Applicants must submit a USF Graduate Application for Admission and a \$20 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, must submit scores from the GRE General Test taken within 5 years preceding application.
 - b) All applicants to Business Administration, must submit scores from either the GMAT, or the GRE taken within 5 years preceding application.
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. 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 is required. Applicants are responsible for making arrangements to take the examination(s) and to have their scores sent directly from Educational Testing Service to the USF Office of Admissions.
5. Letters of recommendation may be required. (See the individual program section)
6. All transcripts and test scores must be received in the Admissions Office by the deadline for the term and program for which the student is applying.

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 application deadline for the semester desired, whichever is earlier.

Students with Disability

Students with disabilities apply for admission under the same guidelines as other students. If you feel your disability has had an impact on grades, course choice, or standardized admission test scores you may request consideration of this in the admissions process. Students requesting substitution of departmental graduation requirements will need to contact the chair of their department. Please submit documentation to support your request for an exception.

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 nonrefundable application fee of \$20, payable in U.S. dollars, submitted with the application. *Applications received without the application fee will not be processed.*
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. 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 is required. 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.
6. All applicants to graduate programs (except those applying to the College of Business Administration) must submit GRE scores. 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.
7. International applicants must request all schools previously attended to submit transcripts of all college work attempted. These transcripts must be sent directly to the Office of Admissions (from the issuing institution). 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. All non-immigrant degree-seeking international students on all USF campuses, must demonstrate that they have adequate health insurance coverage for illness and injuries in the United States.

Testing Information

Applications for the required tests may be obtained from the addresses listed below:

Graduate Record Examination
Educational Testing Service
Box 955
Princeton, NJ 08540, U.S.A.

Graduate Management Admission Test
Educational Testing Service
Box 966
Princeton, NJ 08540, U.S.A.

Test of English as a Foreign Language Educational Testing Service
Box 899
Princeton, NJ 08540, U.S.A.

For information on local administration of these and other tests, contact the USF Evaluation and Testing Office at 974-2741.

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

Students who have not registered prior to the beginning of the term may register late during the first week of classes. A \$100 late registration fee is charged degree-seeking students.

All registered students may drop or add courses during the first week of classes without penalty. Students owe fees for all courses on their records at the end of the fifth day of classes. Fees must be paid or, if mailed, postmarked by the fifth day of classes to avoid cancellation of registration.

Immunization Requirement

The University requires all students under the age of 40 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 obtain the Immunization form and present the documented proof of immunization to:

USF at Tampa
Student Health Services
USF SHS 100
Tampa, FL 33620

USF at St. Petersburg
Records Office
Bayboro Hall 126
140 7th Avenue S.
St. Petersburg, FL 33701

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

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

USF at Lakeland
State Road 540
Lakeland, FL 33803

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, Continuing Education, and special workshop courses that meet off campus.

Non-Degree Seeking Students

Students who do not intend to work toward a graduate degree may enroll as non-degree seeking students. Non-degree seeking students may obtain 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. Non-degree seeking students are subject to the same academic policies and procedures as degree-seeking students.

No more than 12 hours of USF 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. Non-degree seeking students are urged to contact the Graduate Program Coordinator 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).

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. Information on course 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.

The Traveling Scholar Program

The SUS Traveling Scholar program enables a graduate student to take advantage of resources available on other SUS campuses. A Traveling Scholar, 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 advisor, who will initiate a visiting arrangement with the appropriate faculty of the host institution. The Traveling Scholar program agreement must be approved by the Dean of the Graduate School at USF.

Access to Student Records

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 the provisions of the Federal Family Educational Rights and Privacy Act ("FERPA") and Florida Statute, students have the rights to:

1. Inspect and review their education records
2. Privacy in their education records
3. Challenge the accuracy of their education records
4. Report violations of FERPA to the FERPA Office, Department of Education, 400 Madison Avenue, SW, Washington, D.C. 20202 and/or bring actions in Florida Circuit Court for violations of Rule 6C4-2.001, Florida Administrative Code

Copies of the University's student records policy, USF Rule 6C4-2.0021, may be obtained from The Office of the Registrar, SVC 1034 or Office of the General Council, ADM 254.

Pursuant to requirements of FERPA, the following types of information, designated by law as "directory information," may be released by the University of South Florida: Student name, local and permanent addresses, telephone listings, 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, degrees and awards received, the most recent 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 Registrar's Office in writing (on forms available for that purpose), if they wish Directory information to be withheld. The Refusal Notification must be received no later than the end of the second week of classes in the Fall Semester to avoid inclusion in the University Directory. Such requests will be effective until the student has not been enrolled at USF for three (3) consecutive terms.

ACADEMIC POLICIES AND PROCEDURES

General Information

The Graduate School and the degree programs have established certain academic requirements that must be met before a degree is granted. *While advisors, directors, department chairpersons, and deans are available to help the student meet these requirements, it is ultimately the responsibility of the student to be acquainted with all regulations, and be responsible for completing requirements.* If requirements for graduation have not been satisfied, the degree will not be granted.

Courses, programs, and requirements described in the Catalog may be suspended, deleted, restricted, supplemented, or changed at any time at the sole discretion of the University and the Board of Regents.

USF operates on a semester system. Semesters begin in August and January, with summer sessions beginning in May and June.

The Graduate Catalog

A student is entitled to one USF Graduate Catalog per issue. Each Catalog is considered to be published and in effect for the academic year printed on the title page. Prospective students may also obtain general University information, application, and degree program contacts by requesting the *Guide to Graduate Studies at USF* from the Admissions Office.

In order to graduate, students must meet all graduation requirements specified in the USF Catalog of their choice. Students who are continuously enrolled may select any Catalog within 5 years of their graduation or completion date. Students may choose any USF catalog published during their continuous enrollment. Continuous enrollment is defined as completing a minimum of two terms per academic year at USF, with grades assigned for courses taken, through time of graduation. Students cannot choose a USF Catalog published prior to or during an academic year in which they did not complete at least two terms.

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.

The University does not commit itself to offer all the courses, programs, and majors listed in this Catalog unless there is sufficient demand. Some programs or courses may be suspended or restricted because of an insufficient number of faculty or lack of facilities. If the student cannot meet all of the graduation requirements specified in the Catalog of choice as a result of decisions and changes made by the University, appropriate substitutions will be determined by the program to ensure that the student is not penalized. University policies are subject to change and apply to all students regardless of Catalog choice.

Official Academic Record

The Office of the Registrar maintains the official academic records for all students and course registrations for currently enrolled students. Students should contact this office or the Graduate School with questions concerning academic policies and procedures pertaining to their current registration or academic record.

Transcripts of a student's USF academic record may be requested through the Office of the Registrar and 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. Transcripts cannot be released for students who have outstanding financial obligations to the University.

Course Attendance

Students may cancel their registration before the first day of the semester 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.

In order to ensure their enrollment, students are required to attend the **first class meeting** of all regularly scheduled classes at the 5000 level and below, for which they have registered prior to the first day of classes. Students not in attendance at the first class meeting may be dropped from the course. Students who are unable to attend the first class meeting because of circumstances beyond their control must inform the instructor or department, preferably in writing. For structured courses, 6000 and above, this first-day requirement will be set by the College/Campus Dean. Check individual colleges and campuses for specific information. *To avoid fee liability and academic penalty, the student is responsible for ensuring that he/she has officially dropped or been dropped from all undesired courses by the end of the 5th day of classes.*

After students have completed their registrations, they may **add courses** until the add deadline specified in the Academic Calendar. See the appropriate semester *University Class Schedule* for detailed instructions and dates.

Drop/Add/Withdraw

A student may **drop** any course during the first five days of classes. No entry of the courses will appear on any permanent records and a full refund of fees paid by the student is due for any course dropped within this period.

A student also may **drop** courses 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 courses and the academic record will reflect a "W" grade for any dropped courses. Courses dropped after the ninth week (see Academic Calendar for deadline) will result in an automatic "F" grade.

Students may **withdraw from all classes**, without academic penalty, during the first nine weeks of any term (except for summer sessions; see *University Class Schedule* for dates) by submitting 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.

All refunds must be requested in writing from the Office of Finance and Accounting. See "Refund of Fees" under Financial Information for complete details.

Auditing of courses

Students may audit graduate-level courses; however, auditors are 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 credit, except that out-of-state tuition is not charged. See *University Class Schedule* for detailed instructions and dates.

Grades and 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 and the Dean of the Graduate School. 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 good 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. The inability of a Veteran Student to achieve a passing cumulative GPA after two consecutive semesters of probationary status will result in termination.

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/no grade reported by instructor
- N Audit
- S Satisfactory
- U Unsatisfactory
- W Drop or Withdrawal from courses without penalty
- Z Continuing registration in multi-semester internship or Thesis/Dissertation courses

The University uses a four-point grading system to compute grade point averages (GPA) (A = 4 quality points, B = 3, C = 2, D = 1, F = 0). The GPA is computed by dividing the total number of quality points by the total number of graded (A-F) hours completed. 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. Graduate 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.

Graduate students may not take courses in the major on an S/U (satisfactory/unsatisfactory) basis unless courses are specifically designated S/U in the Catalog. Students may take courses outside of the major on a S/U basis with prior approval of the course professor, major professor or advisor, and the dean of the college in which the student is seeking a degree. The student may apply a maximum of 6 hours of such credit (excluding those courses for which S/U is designated in the Catalog) toward a master's degree.

Directed Research, Thesis, and Dissertation 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.

An "I" grade may be awarded at the discretion of the instructor only when the student is otherwise earning a passing grade and only if the incomplete is due to the omission or fault of the student. Students are advised to initiate a written contract for incomplete grades. The contract should include a description of the work to be completed, the date by which the work is to be submitted and should be approved and signed by the course instructor. Until removed, the "I" is not computed in the grade point average. If not removed after two terms (including summer), "I" grades will be converted to "IF" or "IU" (Incomplete-Fail/Unsatisfactory). Students do not re-register for courses in which they are only completing requirements to change an "I" grade. If a student wants to audit a course for review in order to complete course requirements, full fees must be paid. All "I" grades must be removed before graduation.

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.

The "Z" grade indicates continuing registration in multi-semester internship or thesis/dissertation courses. Upon satisfactory completion of multi-semester internship or thesis/dissertation, the final grade assigned will be an "S."

Enrollment Requirements

All degree-seeking students, excluding those admitted to candidacy, must be enrolled at least one term during the previous 12 months. Students who have not enrolled in any of the last three terms will be dropped from their degree program. Students may reapply to the University by submitting a new application. Applicants will be subject to the admission criteria in effect at that time. Students may request exceptions to this policy, for legitimate and valid reasons, through their Department, College, and the Graduate School.

A student who has completed the required course work and continues to occupy space, to use university facilities or staff, and to receive faculty supervision, but who has not submitted a thesis/dissertation, shall register for a minimum of 2 hours of thesis/dissertation **each semester**. 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" and/or "Z" 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 the exam is taken between semesters, the student must enroll for a minimum of 2 hours of graduate credit in the semester before or following the exam.

Full-time Status

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

Transfer Credit

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

Change of 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. Change of degree must be approved 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. Students wishing to change levels (e.g. Masters to Doctoral) must reapply to the University.

Application for Degree

Each student who plans to complete degree requirements by the end of a term must submit an Application for Degree 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.

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

Commencement

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 USF, except upon prior authorization of the Graduate School and the Provost.

In cases where 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.

Appeals

Graduate students may appeal actions regarding their academic status or academic performance. Reports of actions and appeals will be maintained in the student's permanent file:

1. In decisions based on departmental action, the student must appeal first to the department through the major professor or graduate program director, 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.

Grievance Procedures

To assure students the right to redress of academic grievances, any student may file a question or complaint in the Graduate School, in person or in writing. The Graduate Dean may refer the complaint to the student's department or college. Students should always attempt to resolve their problems and exhaust all remedies at the department or college level before bringing an official grievance to the Graduate School. Students may also seek the assistance of the Student Advocate located in ADM 151.

GENERAL DEGREE REQUIREMENTS

The following sections describe the requirements established by the Graduate School for the Master's and Doctoral degrees. However, individual programs may establish additional or more stringent requirements. Generally, these additional requirements are set out in the descriptions for each program. Programs also may have unpublished requirements, and *students must see their program advisor for a complete listing of degree requirements. Students are responsible for being aware of all requirements for their degree.*

The Master's Degree

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.

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 Dean of the Graduate School. Students enrolled in undergraduate courses as part of a planned degree program are 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.

Major Professor

Upon mutual recommendation from the student and professor concerned, an advisor or major professor will be appointed during the student's first term by the program director/departmental chairperson. 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.

Thesis Committee

Students working toward a thesis degree will have the benefit of a committee of members of the graduate faculty, appointed by the program director and approved by the Dean of the Graduate School. The committee will consist of the major professor and at least two other members of the department or area in which the degree is sought. The director of a thesis must be a full or associate credentialed member of the USF Graduate Faculty 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 Limitations

All credits used to satisfy the requirements for the master's degree must be completed within seven academic years prior to the date of graduation.

Comprehensive Examination

Prior to clearance for the degree, candidates must perform satisfactorily on a comprehensive examination in the major area. Students must be enrolled for a minimum of 2 hours of graduate credit in the discipline during the semester when the comprehensive examination is taken. If the exam is taken between semesters, the student must be enrolled for a minimum of 2 hours of graduate credit in the semester before or following the exam.

Thesis

If a thesis is required, it must conform to the guidelines in the *Thesis and Dissertation Handbook* available in the student's department or from the Graduate School. An abstract must accompany the thesis. In the semester in which graduation is to occur, students must enroll in at least 2 thesis hours and submit a thesis to the Graduate School by the date established for submission.

Students should submit a draft of their thesis to the Graduate School for a format check before the final submission deadline. Deadlines for submitting the draft and final manuscript are posted every semester and are available from the graduate program director in the student's department. Failure to submit the manuscript for a format check may result in delaying graduation.

If students elect to submit a thesis after the submission deadline, but on or before the first day of the upcoming semester, they will not be required to register for 2 thesis credit hours for graduation in the upcoming semester, provided they were registered for such in the preceding semester. The student will be considered a graduate of the upcoming semester, and must therefore apply for graduation in that semester. If final copies are submitted after the first class day, the student must enroll in 2 thesis hours and apply for graduation for that semester. Submission of drafts between semesters does not guarantee timely service.

Only after the thesis has been approved by the Graduate School 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. Check with the department, college or Graduate School for submission deadlines.

Exchange of Thesis for Non-thesis Credit

If a student changes from thesis to non-thesis during a semester and is currently enrolled in thesis credit, the current thesis credits may be exchanged without academic penalty if a Graduate School Petition is filed with the Graduate School not later than the last day of drop/add.

If a student enrolled in a thesis required program has taken thesis credits but elects to change to non-thesis track or program, the accumulated thesis credits cannot be exchanged or converted to another non-structured credit. The thesis hours will remain on the transcript and will retain the "Z" grade.

Dual Master's Degree

A student may wish to pursue two master's degrees simultaneously. Upon approval by the Dean of the Graduate School, 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.

The Doctoral 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.

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

Doctoral Committees

An advisor will be appointed by the department or program for each student during the first semester of residency. The advisor will advise on any specific subject matter deficiencies and assist in the choice of a major professor and 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, grade the written comprehensive qualifying examination, read and approve the dissertation, and conduct the dissertation defense. The Doctoral Committee will consist of at least four members, three of whom must come from the academic area in which the major work for the degree will be done. All members must be credentialed by the Graduate School.

Tools of Research

Before a student becomes eligible to take the doctoral comprehensive qualifying examination, two of the Tools of Research designated by the Doctoral Program must be completed. Traditionally, foreign languages have been used as research tools to gain access to literature published in foreign languages. The Tools of Research now is interpreted more broadly to include a wide range of skills or competencies relevant to research in the discipline not ordinarily a part of the program of study, such as programming languages and application packages or other skills relevant to the area of study. The Tools of Research will be specified by individual Doctoral Programs. The Program will also determine if credit hours taken to fulfill the Tools of Research will be credited toward the Graduate Degree.

Residency

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

Time Limit

All course work taken after admission to the Ph.D. program and before admission to candidacy must be completed within 5 academic years for those entering with a Master's degree and within 7 academic years for those entering without a Master's degree. After a student is admitted to candidacy, he or she has 5 academic years to obtain the doctoral degree.

Comprehensive Qualifying Examination

When 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. Students must be enrolled for a minimum of 2 hours of graduate credit in their discipline at the time they take the comprehensive examinations. If the exam is taken between semesters, students must be enrolled for a minimum of 2 hours of graduate credit in the semester before or following the exam.

Admission to Candidacy

Students may not be admitted to candidacy until a Doctoral Committee has been appointed, and the Committee has certified that the student has successfully completed the comprehensive qualifying examination and demonstrated the qualifications necessary to successfully complete requirements for the degree. 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. Following approval of the Admission to Candidacy form, the student may enroll in Dissertation credits.

If during a semester a student completes the requirements for admission to candidacy, the student may exchange directed/individual research credits for dissertation credits if a Graduate School Petition is filed with the Graduate School no later than the last day to drop/withdraw without academic penalty (see Academic Calendar).

Mandatory Enrollment

Doctoral students who have completed all degree requirements, and have been admitted to candidacy, are required to accumulate a minimum of 6 credits during each 12 month period following admission to candidacy, until the degree is granted. If it is necessary for a doctoral student to use USF resources (e.g., personnel, faculty time, facilities, or the library), the student must be enrolled. Any exception to this policy must have the prior approval of the Department, College, and the Dean of the Graduate School.

Students who fail to enroll for these credits will be placed on probation by the Graduate School. To be removed from probation, the student must enroll for the deficient credits and an additional 3 credits in the very next semester. Students who do not fulfill probation requirements will be withdrawn from the doctoral program. Students wishing to reapply to the University will be subject to the admission criteria in effect at that time.

Final Oral Examination

After the Doctoral Committee has determined that the final draft of the dissertation is suitable for presentation, the Committee will request the scheduling and announcement of the dissertation defense examination. The request form will be submitted via the department chairperson to the college Dean and the Dean of the Graduate School for approval. The request must be received in the Graduate School Office at least 2 weeks prior to the scheduled examination. The dissertation defense examination must be held at least 4 weeks before the last day of classes; therefore, the request for defense of the dissertation must be received in the Graduate School at least 6 weeks before last day of classes 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 from outside the department, 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. The chair will be appointed by the Dean of the College of the student's dissertation committee, or of the department or program in which the degree is sought.

Dissertation

Students must be enrolled for a minimum of two dissertation hours each term that USF resources are used. Each department determines the total number of dissertation hours required for completion of the degree.

At least 2 weeks before the last day of classes of the semester in which the student is to receive the degree, a candidate must submit a completed dissertation signed by the committee to the Dean of the Graduate School. The dissertation must conform to the guidelines in the *Thesis and Dissertation Handbook*. An abstract also is required. Students are advised to submit a draft of their dissertation to the Graduate School for a format check at least 4 weeks before the final submission deadline. Failure to submit the manuscript for a format check may result in delaying graduation. Deadlines are available from the student's department.

In the semester in which graduation is to occur, students must enroll in at least 2 dissertation hours and submit a dissertation to the Graduate School by the date established for submission. If students elect to submit a dissertation after the submission deadline, but on or before the first day of the upcoming semester, they will not be required to register for 2 dissertation credit hours for graduation in the upcoming semester, provided they were registered for such in the preceding semester. The student will be considered a graduate of the upcoming semester, and must therefore apply for graduation in that semester. If final copies are submitted after the first class day, the student must both enroll in 2 dissertation hours and apply for graduation for that semester.

Only after the dissertation has been approved by the Graduate School for filing in the University Library can the student be certified 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. Doctoral students must complete the National Research Council's Survey of Earned Doctorates when they submit the dissertation.

Restriction on Release of Publications

The University recognizes the benefits from collaboration with sponsors on research projects but also recognizes the possibility of conflicts of interest in the disclosure of the results of the collaborations. While the sponsor's economic interests in the restriction of disclosure should be considered, the University has a primary mission to extend knowledge and disseminate it to the public and the broader academic community.

The University's "Statement of Policy Regarding Inventions and Works" acknowledges the possible need for delays in publication of sponsored research to protect the sponsor's interests, but it provides no definite guidelines for the restrictions of publication beyond the statement: "Disclosure delays mutually acceptable to the Inventor, the Vice President for Research, and the sponsor, if any, are authorized in order to allow patent applications to be filled prior to publication, thereby preserving patent rights..."

To protect the University's primary goal from undue compromise, the University has adopted the following guidelines:

1. The recommendations of sponsors, regarding publication of research results should be considered advisory rather than mandatory.
2. The maximum delay in publication allowed for pre-reviews and patent or copyright application should not exceed three months from the date the thesis/dissertation is filed with the Graduate School.
3. Students should not be delayed in the final defense of their dissertations/theses by agreements involving publication delays.

*April Burke, "University Policies on Conflict of Interest and Delay of Publications," Report of the Clearinghouse on University-Industry Relations, Association of American Universities, February, 1985.

FINANCIAL INFORMATION

Florida Residency for Tuition Purposes

In determining residency classification, students are either *independent students* (students who provide more than 50% of their own total support and expenses and are *not* eligible to be claimed on a parent's or legal guardian's federal income tax statement) or *dependent students* (students, regardless of age, who provide less than 50% of their own total support and expenses or are claimed as dependents by parent or legal guardian on federal income tax statement).

The law requires that a U.S. citizen or a permanent resident alien who is an independent student or a dependent student's parent/legal guardian establish and maintain a *legal* Florida residence and physical presence in Florida for at least 12 months before the first day of classes of the term for which Florida residency status is sought.

USF is required to obtain documentation of 12 months' legal residence and physical presence before a student is classified as a Florida resident for tuition purposes. An enrolled student seeking reclassification from non-Florida to Florida residency is required to file the Request for Change of Residency Status form and submit supporting documents to the Registrar's Office no later than the fifth day of classes in the term for which re-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.
9. Full-time, non-temporary employment in Florida.
10. Absence of legal ties with another state.

Please note: Rent receipts, leases, tax returns, school/college records are *not* evidence of establishing a legal Florida residence, but may provide evidence of physical presence. 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, 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 Office of the Registrar.

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. 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 *University Schedule of Classes*.

Fees are assessed by course level and credit hour—not by student classification:

Course Level	4000	5000/6000/7000
In-State/credit hour	\$62.55	\$114.47
Out-of-State/credit hour	\$225.96	\$367.49

Off Campus Courses are charged at the same fees as stated above.

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 *University Class Schedule*. **Registration fee payment may be made in person at the Cashiers Office, ADM 131 or mailed to:**

Cashier's Office
University of South Florida
4202 E. Fowler Avenue
Tampa, Florida 33620

Students not on an authorized deferred payment plan and who have not paid their registration fees in full by the published deadline will have their registrations canceled. 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 canceled. Any fees paid will be refunded or credited against any charges due the University.

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.

Students who present Intern Certificates for payment of their registration fees will be required to pay \$4.76 per hour for all credits 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.

A degree-seeking or non-degree seeking student who is employed by the State of Florida (including USF) and who has secured all required employer approvals on the State Employee Tuition Waiver Form must register at or after the time specified in the Schedule of Classes. The State Employee tuition waiver covers a maximum of 6 credit hours (excluding thesis, dissertation and directed individual study courses) and is applicable only if the student registers for these credits during published registration periods.

A State Employee who registers at any time other than the approved State/Staff Registration Dates, may *not* use the State Employee waiver and will be liable for these fees. Waiver forms must be completed and turned in to the Cashier's Office by the fee payment deadline in order to avoid the \$50.00 Late Payment Fee. All hours in excess of 6 must be paid for at the regular rate.

Students receiving VA benefits who apply in writing no later than the specified date for the 60-day deferment of fees from the Office of Veteran's Services have until a date listed in the University Class Schedule to pay registration fees in full.

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. Payments may be mailed to Finance and Accounting, University of South Florida, Tampa, 33620.

Vehicle Regulations and Fees

Students may use properly registered motor vehicles on any University campus. Parking facilities are provided for resident students, commuter students, faculty, staff, and visitors. All motor vehicles and bicycles must be registered with the campus Parking Services Department. 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 registering a motor vehicle.

Yearly fees for students registering after the first semester will be prorated. Students may park in remote areas for a lesser fee. All decals expire on 31 August.

Motorcycles and mopeds must also be registered.

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.

All staff/students with physical disabilities that 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 Handicap Parking Permit, or have military disability of 50%

or greater with V.A. certificate or letter from a physician. 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

Financial Assistance

Financial assistance is available through the Graduate School, the College of your major, the Office of Financial Aid or external sources. It is wise to check all sources to be fully aware of the programs for which you may qualify.

Assistantships or Associateships

Assistantships are awarded by the individual departments of each college. Please contact the Graduate Program Director or Department Chair for more information. To be eligible to obtain a Research, Teaching, or Graduate Assistantship or Associateship, a student must be degree-seeking and be enrolled each semester for the number of credit hours specified by his or her program. In special cases a research assistant or associate may be non-degree seeking for one semester only.

Fellowships, Grants and Scholarships

USF Fellowships, Grants and Scholarships are funds distributed by the University to students for which no work or repayment is required. The Graduate School administers the University Graduate Fellowship (UGF), Graduate Educational Opportunity Grant (GEOG), The Latino Graduate Fellowship, and the SUS Special Summer Program for African-American students.

UGFs are awarded annually, on a competitive basis, to full-time students of outstanding academic potential. Recipients receive \$3500 per semester (fall and spring) and a partial tuition waiver. Applicants must have an upper-division undergraduate GPA of 3.2 or better, graduate GPA of 3.5 for any graduate work, and 1200 or better on the combined verbal-quantitative portions of the GRE (1050 for the College of Fine Arts) or 550 on the GMAT. Applications are available in December from the graduate coordinators of each college.

GEOGs are awarded to outstanding African-American graduate students. Recipients receive \$3,150 per semester (fall and spring) and a partial tuition waiver. Master's students are eligible for 4 semesters of support; Doctoral level, 6 semesters. Eligible students must be nominated by their department, have a minimum GPA of 3.0 in the last two years of undergraduate work, and a minimum GRE of 900 or GMAT of 450. For additional information contact the Graduate School.

The Latino Graduate Fellowships are awarded to outstanding Latino graduate students who demonstrate both academic excellence and financial need. Recipients receive \$3,150 per semester (fall and spring) and a partial tuition waiver. Recipients are eligible for 2 semesters of support, but may reapply. Applicants must have a minimum GPA of 3.0 in the last two years of undergraduate work, and minimum GRE of 900 or GMAT of 450. For additional information contact the Graduate School.

SUS Special Summer Program for African-American Students provides African-American students an opportunity to acquaint themselves with graduate study. A stipend of \$1,300 is provided and students are required to carry a minimum of 6 credit hours during the summer semester. Students may apply for this support or may be nominated by their department. For additional information and applications, contact the Graduate School.

Individual colleges have information on other USF fellowships, grants or scholarships particular to their individual fields of study.

The Graduate Scholarships and Fellowships Program is administered by the Graduate School to help students locate and apply for fellowship opportunities not generated within USF. Some of the awards identified by this program include the Fulbright, Rhodes, Woodrow Wilson, American Association of University Women, Robert Bosch Foundation, National Science Foundation, Patricia Roberts Harris Fellowships, and the Rockefeller Foundation.

The Graduate Scholarships and Fellowships Program will assist at each stage of the application procedure. Many graduate external awards include full tuition, a living stipend, travel, and book expenses. 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 March.

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

Financial Aid

The Office of Financial Aid administers the Federal Work Study Program and several loan programs for which graduate students qualify. In addition, there is a Scholarship Resource Center which allows students to access information on private sources of funding through computerized databases, as well as source books.

Students interested in financial aid should apply as soon as possible after January 1, each year, for the coming academic year. Programs that are awarded by the Office of Financial Aid have limited funds, and are awarded on a priority basis.

Application packets are available outside the Office of Financial Aid, SVC 1102, or call (813) 974-3730 and request one. The Free Application for Federal Student Aid (FAFSA), included in the packet, is used to determine financial need for most forms of financial aid.

Students whose financial aid funds are delayed may qualify for temporary deferment of tuition and fees and for a Financial Aid Short Term (FAST) Book Loan. Deferments are automatically granted to eligible students; however, FAST book loans must be requested individually.

In addition, the Office of Student Financial Services, ADM 176, has a limited amount of funds for short term loans which are not contingent upon delayed financial aid. These loans are for tuition or emergency purposes once fees are paid. Details can be obtained by contacting that the Office of Student Financial Services.

Tuition Waivers

The Florida Legislature provides funds for graduate tuition waivers to attract outstanding students. Tuition waivers partially reduce a student's fees. They are awarded on a competitive basis to Research, Teaching or Graduate Assistants/Associates appointed to work at least 10 hours a week (.25 FTE). Tuition waivers are available through the student's academic department.

Tax Liability

Students who receive scholarships, grants, fellowships, or tuition waivers are responsible for record keeping, filing, and for the payment of any income tax that may be due. For more information request IRS Publication 520 at 1-800-829-3676.

STUDENT SERVICES AND ACTIVITIES

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 in an atmosphere of openness and candor. The programs are presented according to guidelines established by the Florida Board of Regents (Section 6C Florida Administrative Code).

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 aid, health services, individual and/or group counseling, alcohol/drug education, career planning, 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 to provide students opportunities to become involved in campus life outside the classroom: orientation for new students, residence halls, student organizations, Marshall Center programs and activities, student publications, intramural and recreational sports, and events of special interest.

Student Health Service

The University Student Health Services provides comprehensive health care for all health fee paying students. Student Health Services functions as a walk-in clinic and maintains a day infirmary only. It is very important to bring your current validated ID card when you come. You will be screened by a nurse. If necessary, you will then be referred to one of the staff physicians. Several specialty clinics are offered at a reduced cost, i.e., gynecology, antigen, dermatology clinics.

Other services offered are a clinical laboratory and multiple health education programs. The registration requirement for measles/rubella immunization can be administered for a fee at the Student Health Services.

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. The Center 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, 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 and life planning, 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.

The Paraprofessional Counseling Service is sponsored by the Counseling Center and provides a peer crisis counseling service (Helpline) seven nights a week. This program is staffed by student volunteers and is under the supervision of Counseling Center staff.

Special services are provided by the State Division of Vocational Rehabilitation, which maintains an office in the Counseling Center. The Counseling Center also houses the Employee Assistance Program and the Center for Alcohol and Substance Abuse Research and Prevention.

International Student and Scholar Services

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

International Student and Scholar Services (ISSS), located in the Marshall Center provides services and programs to international students. The ISSS assists internationals in adjusting and achieving their academic objectives at the USF. The staff is available to counsel students and scholars on immigration matters, as well as on the financial, social, personal, and academic aspects of student life. The ISSS regularly schedules informational and cultural activities. The American Friend Program is designed to help orient international students to American family life. The English Conversation Program offers students and scholars an opportunity to practice their English speaking and listening skills outside an academic setting.

Students with Disabilities

All University programs, events and services are open and available to persons with disabilities. The University of South Florida is committed to the principles of Equal Educational and Employment Opportunities without regard to disability.

The Disabled Student Academic Services Office coordinates auxiliary learning aid assistance to eligible students with disabilities. Course related assistance and accommodations such as reader services, interpreters, alternate exam administration, notetakers, and adaptive equipment such as TELEX FM systems, large print computer access/Visualteks are available through this office. Students who require no direct academic assistance may qualify for priority registration upon supplying medical documentation of their disability. Students are encouraged to contact this office prior to enrollment to make arrangements for services.

Students with state parking privileges need only supply their state card as documentation for eligibility for a USF disabled parking hangtag/sticker. Students without state privileges need medical documentation to be considered for on campus disabled parking.

Accessible on-campus residence hall housing is available for students with special needs. Specific information is available through the Director of Residence Halls, RAR 229.

Students with disabilities are encouraged to participate fully in all University events, programs, and other campus activities. Information on whom to contact to request accommodation or assistance should be listed on program information and advertisements.

The following offices arrange academic accommodations and assistance for students with disabilities:

Tampa Campus: Coordinator of Disabled Student Academic services SVC 2043
813-974-4309 (Voice) 974-5651 (TDD)

Sarasota Campus: Coordinator for Advising for Special Needs Students PMD 223
813-359-4330

Lakeland-Campus: Office of the Director for Academic Services, Building C, USF
Offices 813-677-7000

St. Petersburg Campus: Office of the Director, Student Affairs, DAV 118,
813-893-9162

Ft. Myers: Office of Student Affairs Howard Hall 118, 813-432-5574

Veterans Services

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.

Veteran's 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, and active duty personnel. 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 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. 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, and military service school credit.

USF 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.

Students who may be eligible for benefits should contact the Office of Veterans Services 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, non-degree seeking students must enroll for 12 or more hours, and degree-seeking graduate students must enroll for 9 or more hours each 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. 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 compensation and pension, which may be payable to eligible veterans and widows or widowers of veterans for 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.

Housing

Every regularly enrolled student, graduate or undergraduate, is eligible to apply for University residence hall space. Since space is limited, students are encouraged to apply early by contacting the Department of Residence Halls; RAR 229; 4202 E. Fowler Avenue; Tampa, FL 33620-7700. Proof of acceptance into a graduate program should be enclosed with the application for housing. No on campus facilities are available to married couples or children. All residence halls at the University of South Florida are smoke-free.

Residence Halls are clustered around three centers of community activity—the Argos, Andros, and Village Complexes. Each complex provides a core of services for its residents, including a central communications desk, mail delivery, food service, swimming pool, and study lounges. All residence halls are fully air conditioned and most are carpeted throughout. Basic in-room cable television service and local telephone service is provided in each room at no additional charge. Each room is furnished with a bed, desk, chair, dresser, draperies, closet, and a bookshelf for each resident. Although the complexes provide the same basic services, they represent different options in campus living.

The Argos Complex—Beta Hall (men) and Gamma Hall (women)—represents traditional hall living. Room accommodations are designed for both studying and sleeping. The 40-50 residents occupying a living unit share common bath facilities which are attended Monday through Friday by the hall's housekeeping staff. Centrally located lobby areas, laundry rooms, snack vending machines, a food court, and a convenience store are provided.

The Andros Complex consists of nine smaller halls—**Delta Hall, Kappa Hall, and Epsilon Hall (women); Eta Hall, Zeta Hall, Iota Hall, and Theta Hall (men); Mu International Hall** (coeducational by wing); and the Honors Residence Hall, **Lambda Hall** (coeducational by floor). Suites are designed to accommodate eight residents—two sharing a bedroom, four sharing a study area, and eight sharing bath facilities. Single occupancy rooms are available (one student per bedroom, two sharing a study area, and four sharing bath facilities). Bathroom facilities are attended Monday through Friday by the hall's housekeeping staff. The residents in each living unit share a small kitchenette-lounge and laundry facilities. Centrally located snack vending machines and a cafeteria are provided.

The Village Complex, consisting of 30 buildings with 10 double occupancy **efficiency apartments** in each building, is reserved for juniors, seniors, and graduate students. The buildings are scattered over a wooded area of approximately 10 acres, characterized by a unique and convenient living arrangement. Each apartment has a bathroom, kitchen, and living area; its own outside private entrance; and is furnished with a bed, desk, wardrobe, and bookcase for each resident. A centrally located multi-purpose building, recreation room, and laundry room are provided.

The Student Government office, located in the 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 services are available to both resident and off-campus students. These facilities include residence hall cafeterias, the Marshall Center cafeteria and Food Court, the Argos Food Court, bake shop and pub, satellite snack bars throughout the campus, convenience stores, and vending facilities.

University Book Stores

The USF Bookstore and Textbook Center is located on West Holly Drive, west of the water tower. The store offers a variety of merchandise for the USF Community. New and used textbooks, study guides, workbooks and some reference books are available in the Textbook Center Department.

The General Book Department features additional study aids, technical and professional books, the latest in paperbacks, language and travel books. Hardback best sellers are offered at a special discount. The latest "Books in Print" listing on CD Rom is available for special book orders. Sale and gift books are provided during most of the year.

The bookstore stocks all course required supplies. The store also offers the most recent fashions in collegiate clothing, gifts and souvenirs. Other store merchandise includes cards, calculators, novelty items, magazines, jewelry (including class rings), candy and snack items.

Health Science Bookstore

The Health Sciences Bookstore (MDC 102) stocks all required textbooks and a full line of medical reference and technical books. Special order service is available for any book not in stock. The store also stocks a section of the most recently published medical books. Other supply merchandise, medical instruments and a variety of gift, card and novelty items are also available.

St. Petersburg Campus Bookstore

The Campus Bookstore, located in Coquina Hall, offers textbooks, supplies, general books, cards, novelty, gift items and imprinted clothing merchandise for the St. Petersburg students, faculty and staff.

Lakeland Campus Bookstore

At the beginning of each term, the mobile bookstore is located in Building E on the Lakeland Campus. This store offers textbooks and supplies for students on this campus.

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.

Phyllis Marshall Center

The Phyllis Marshall Center and adjacent Special Events 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 Marshall Center seeks to add another dimension to the educational experience by providing an environment for informal association outside the classroom.

The Marshall Center houses a Food Court, bake shop, Rocky's Empty Keg, computer services, organizational offices, meeting rooms, Center Studios, Game Room, study lounges, travel agency, USF Credit Union and more.

The Information Desk, located in the lobby, serves as the coordinating center for services and activities in the Center and the University. Services available include discount ticket sales, recorded campus tours, Tampa area bus schedules, official USF lost and found, graduation announcements, Flea Market arrangements, and current events information.

Cultural Events

Each year a variety of outstanding visual and performing artists visit the USF 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 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.

STUDENT ORGANIZATIONS

The many service organizations at USF contribute volunteer services to the University and the Tampa Bay area. These service and resource organizations are the Gospel Choir, Ambassadors, Amnesty International, Bacchus, Black Student Union, Campus Compact Tutorial/Mentoring Program, Circle K, Everywoman's Center, Eco-Vision Recycling Service, FPIRG Local Board, Gay/Lesbian Coalition, Greek Week Committee, Para-professional Counseling Center, Senior Class Committee, Student Organizations Advisory Board, Sun Dolls, and the Center Activities Board.

The professional societies at USF include Delta Sigma Pi, Minority Graduate/Professional Student Organization, Pi Sigma Epsilon, Pre-Law Society, Pre-Med Society, and the Pre-Veterinary Club. Colleges and departments also host a variety of professional and scholarship organizations.

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

Religious Organizations

The University supports campus ministries in the Episcopal Center, the Baptist Center, the ecumenical University Chapel Fellowship, and the Roman Catholic Center. The Chabad House is an active Jewish center and 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 and campus ministries are active on campus: Bahai Club, Baptist Campus Ministry, Campus Advance, Campus Bible Fellowship, Episcopal Center, Catholic Center, Chabad House, Christian Science Organization, Friends of Israel Gospel Ministry, Intercollegiate Adventist Student Fellowship, Hillel, Navigators, New Testament Christians, Transdenominational Prayer Group, and University Chapel Fellowship.

International/Political/Social Change Organizations

International student organizations at USF include the Caribbean Cultural Exchange, Chinese Student Union, Intercultural Organization, Lebanese Student Union, Model United Nations, Muslim Student Organization, Vietnamese Student Association, and Students of India. There are numerous organizations for political and social change.

Campus Recreation

The Campus Recreation Program is designed to provide opportunities for participation in a wide variety of sports and recreational activities for the entire University community through its four components.

Intramural competition is scheduled in 24 different sports, with considerable interest in participation by resident hall teams, campus organizations and independent students.

The Outdoor Recreation division offers opportunities for students to become involved in outdoor trips, lectures, and workshops, i.e., snow skiing, sailing, canoeing, camping. Students can become involved as participants, group leaders, workshop administrators, or may simply rent any of the large inventory of outdoor recreation equipment.

The sports club program offers participation opportunities for students with a special interest in twenty different sports, from aikido to weight lifting.

The new Recreation Complex houses a swimming pool, exercise equipment room, gymnasium, basketball and racquetball courts. The USF riverfront is available for student and staff use during free time, as well as recreation equipment, which may be checked out at the Gym.

A yearly Campus Recreation Handbook is published which details the programs and facilities available, and a schedule for recreation hours is available each semester.

Intercollegiate Athletics

USF 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, track, cross country, golf, soccer, and tennis. The women compete in basketball, golf, tennis, softball, track, cross country, and volleyball. USF is a member of Conference USA.

Student Publications

The *Oracle*, a tabloid campus newspaper, is published Monday through Friday during the fall and spring and twice a week during the summer. Averaging 16 to 20 pages each issue, the *Oracle* provides training and professional experience for those students interested in print journalism, layout and design, and advertising. Students interested in staff positions are invited to apply.

Student Conduct

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.

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 Conduct Code. These are described in detail in the Student Handbook.

Standards and Discipline

Any action or the aiding, abetting, or inciting of any action which is in violation of the University's Student Conduct Code and/or University Policy constitutes an offense for which students may be subject up to and including suspension. Students are responsible for compliance with all public laws as well as University Rules and Regulations. Students should also familiarize themselves with the University's Administrative Policies as defined in the Student Handbook. These include: the Equal Opportunity Policy; the Policy on Sexual Harassment; the policy on Sexual Assault and Battery; the Alcohol Beverage Policy; the Policy on the Illegal Use of Controlled Substances and Alcohol; and the Policy on Hazing.

Any act that will constitute a violation of public laws at the University will establish cause for additional legal action.

Due Process Rights

University disciplinary procedures afford students all rights of due process required for disciplinary matters. These include: being informed in writing of the formal charges; being given three working days to respond to the charges; having the choice of asking for an informal hearing; being provided a copy of the hearing procedures; being permitted to present evidence; and being given the opportunity to cross-examine any witness.

Academic Dishonesty

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.

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, segments or the total of another person’s work.

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 such as 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; (3) taking an examination for or in place of another student; (4) stealing visual concepts, such as drawings, sketches, diagrams, musical programs and scores, graphs, maps, etc., and presenting them as one’s own (e.g., drawings, sketches, diagrams, musical programs and scores, graphs, maps, etc.); (5) stealing, borrowing, buying, or disseminating tests, answer keys, or other examination material except as officially authorized, research papers, creative papers, speeches, etc.; (6) stealing or copying of computer programs and presenting them as one’s own. Such stealing includes the use of another student’s program, as obtained from the magnetic media, or interactive terminals or from cards, print-outs, etc.

Punishments Guidelines for Academic Dishonesty

Punishments for Academic Dishonesty will depend on the seriousness of the offense and may include receipt of an “F” or “O” grade on the subject paper, lab report, etc., an “F” in the course, suspension or expulsion from the University.

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

Disruption of Academic Process

Disruption of Academic Process is defined as the act or words of a student or students in a classroom or teaching environment which in the reasonable estimation of a faculty member: (1) Direct attention from the academic matters at hand, such as noisy distractions; persistent, disrespectful or abusive interruptions of lecture, exam or academic discussions or; (2) Present a danger to the health, safety, or well being of the faculty member or students.

Punishment Guidelines for Disruption of Academic Process:

Punishment for disruption of academic process 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", if the student is passing the course, as shown on the student record. If the student is not passing a grade of "F" will be shown on the student record.

Due Process Procedures

(1) Alleged violations of academic dishonesty 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 alleged dishonesty occurring 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 or disruptions.

(2) After the discussion, if the student and instructor have reached a mutual agreement as to the solution, the instructor shall file a statement with the chairperson of the department responsible for the course outlining the facts of the incident and the agreed-upon solution signed by both the instructor and the student. If no solution is reached, the matter should be referred to the Chairperson of the department for attempt at resolution. If no resolution is reached, the matter should be referred to the Dean of the College for attempt at resolution. 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.

(3) 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 three (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 three (3) days before the hearing, except in cases of emergency as specified below.

(4) Hearings.

(a) 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.

(b) Non-Emergency Hearings before the Academic Committee – General Principles.

1) 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.

2) The proceedings of all hearings shall be recorded.

3) The student may inspect the evidence which will be presented against him/her.

4) The student may present evidence on his/her own behalf.

5) The student may hear and question adverse witnesses.

6) The student will not be forced to present testimony that would be self-incriminating.

7) The student may have an advisor of his choice present, however, the role of such a person is as an advisor to the student only. The advisor may speak to and consult with the student, but may not serve as the student's advocate, question witnesses or otherwise participate in the proceedings.

- 8) The decision of the academic committee or appointed academic administrator shall be based solely on the evidence presented at the hearing.
 - 9) 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.
 - 10) 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.
 - 11) All hearings shall be closed unless specifically requested otherwise in writing by the charged student prior to the hearing.
- (5) **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.
- (6) **Hearing on Appeal:** The charged student may appeal the decision of the academic committee or appointed academic administrator to the Dean of the Graduate School within thirty (30) working days of decision. The record of the initial hearing may be considered on appeal and the student is entitled access to the record when appealing. The decision of the Dean of the Graduate School is final.

Equal Opportunity Complaint Procedure

The University of South Florida is committed to the principles of Equal Educational and Employment Opportunities without regard to race, color, marital status, sex, religion, national origin, disability or age, as provided by law and in accordance with the University's respect for personal dignity.

A student or employee who believes that he or she has not been treated in accordance with the University's Equal Educational and Employment Opportunity Policy or its Policy on Sexual Harassment may file an Equal Opportunity Complaint. Additional information about these procedures may be obtained from the Office of Equal Opportunity Affairs, ADM 281, or by calling 974-4373.

It is prohibited for any administrator, supervisor, or other employee of USF to take any retaliatory action against an individual who, in good faith, has made a charge, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing under provisions of applicable law.

Victims' Advocacy Program

The Victims' Advocacy Program is available to assist all USF students or employees who are victims of actual or threatened violence, including, but not limited to battery, assault, sexual battery (date rape, acquaintance rape, stranger rape), and attempted sexual battery. Services provided include: information, support, and guidance in Crisis Intervention, emergency shelter, medical help, counseling referrals, and other assistance as required. Services are available 24 hours a day, seven days a week by calling USF Victim Advocate at 974-5757.

Police reports are strongly encouraged; however, reports are not required for information and referral assistance.

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 24 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 is 974-2628.

ACADEMIC SERVICES AND SUPPORT

University Libraries

The University of South Florida Library System provides general library services at all of its campuses. In addition, there are two specialized libraries on the Tampa Campus: the Health Sciences Center Library and the Florida Mental Health Institute Library.

The Tampa Campus Library collection consists of more than 1 million volumes and is constantly growing in order to serve the University's needs for instruction and research, as well as for personal knowledge and cultural advancement. The Tampa Campus Library is a depository for U.S. Government publications. The Tampa Campus Library also houses the University Media Center and provides media services to classroom instructors.

The Special Collections Department is divided into the Center for the Book, the Center for Florida Studies, and the Center for Child Writing. Special collections holdings number more than 800,000 items with major collections of Floridiana, Nineteenth Century children's books, rare maps, photographs, manuscripts, and the USF Archives

Office of Research

Research and scholarly activities are essential aspects of educational programs at the University of South Florida. Faculty members are encouraged to pursue research and scholarly activities that will allow students to participate in research and training projects. In support of these endeavors, the Office of Research and its divisions are dedicated to providing opportunities for faculty, staff, and students.

Division of Sponsored Research (DSR) is the central coordinating unit for sponsored research activities on all campuses. DSR provides information about funding sources to faculty and students and serves as a consultation center for faculty who desire to submit proposals for funding. All proposals for outside support must be transmitted through DSR.

Growth in external funding at USF has been phenomenal. In 1994/95, USF faculty received more than \$100 million dollars from external sources to pursue research and other activities. Through their search for new knowledge, USF faculty and students have made significant contributions to the University's instructional programs and demonstrated concern for society.

Division of Technology Development & Transfer provides support to both faculty and student researchers on such matters as developing and maintaining copyrights, trademarks, and patents, evaluating technology for commercial potential, and marketing the commercialization of University research products. Through the affiliated **USF Research Foundation**, technology transfer to applications that benefit the public is made possible.

Office of Scholarly Publications

The Office of Scholarly Publications fosters the publishing of works of original scholarship, research, and thought in the arts and sciences, including works of local and regional interest, through a program of subvention.

Scholarly Publications is governed by a Council consisting of distinguished members of the Graduate Faculty. The governing board solicits manuscripts and conducts a peer review of manuscripts submitted for subvention. The Council operates in part as an advisory board to the University Press of Florida.

Division of Learning Technologies

The Division of Learning Technologies, a centralized all University service, provides media support and consultation for the improvement of instruction and serves the varied non-instructional needs of the University. The following services are available to students, faculty, and staff members: **Audio-Visual Services, Film and Video Distribution, Graphic Design, Media Productions, Media Supplies and Services.**

The **ID Department** produces the University's official card for all students, faculty, and staff. The ID office is open throughout registration, the first week of class and special hours when needed. Check with the ID department for general semester hours.

Media Productions complements the video production and recording needs of the university by providing an in-house classroom studio production facility. The studios are part of the University's Instructional Television Fixed Services (ITFS) network. Courses, teleconferences, and meetings can be recorded or transmitted live to any designated receive site within a 25-mile radius of the Tampa campus.

The Division also provides services for the reception of satellite-transmitted, interactive programs, conferences and discussions from anywhere in the world.

University Computing Services (UCS)

USF is the host institution for the Central Florida Regional Data Center. This facility operates as a computing utility within the SUS 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 UCS 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.

Central site computing equipment is located in the Student Services Building on the Tampa campus. Remote batch job entry and on-line terminals operate at various locations on campus. Remote access units and terminals are also located at the St. Petersburg, Sarasota, Lakeland, and Fort Myers campuses. Both Macintosh and IBM-compatible computers, printers, and other associated equipment are also maintained for use by faculty staff and students in "open use" labs throughout the campus. These remote open use areas may vary in their scheduled hours of operation but, generally speaking, each provides significant amounts of access, normally seven days a week.

Florida Mental Health Institute

The Florida Mental Health Institute (FMHI), located at the northwest corner of the USF Tampa campus, is a multidisciplinary research, training, and service facility. FMHI's mission is to strengthen mental health services throughout the State of Florida and serve as the SUS's primary mental health research and education facility.

The Institute's four departments, Aging and Mental Health, Child and Family Studies, Mental Health Law and Policy, and Community Mental Health, cover a range of mental health specialties and expertise. FMHI offers training and research opportunities to undergraduate and graduate students, professionals in mental health and related areas, and the public.

The Institute's training programs emphasize practical clinical techniques and 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 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 performed at the Institute in conjunction with USF courses. The Institute cooperates and collaborates with other SUS units, and FMHI faculty teach undergraduate and graduate courses at the request of USF departments.

Two special educational opportunities are offered by the Institute: a 12-month supervised internship program, accredited by the American Psychological Association for Ph.D. level clinical psychology graduate students, and multicultural training program to encourage minority undergraduate and graduate students to enter the mental health fields.

U.S.F. Institute on Black Life

The Institute on Black Life was established in 1986 with a mission to serve as a "bridge" between the University and the Tampa Bay 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 University and Tampa Bay Community.

The Institute maintains an active applied research program with faculty representation from various disciplines. 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.

The Development component provides links with the private sector to establish scholarships, fellowships, book funds, and programs which will enhance the quality of life for students, especially minority students attending USF.

The Institute sponsors University/Community enhancement programs concerned with minority issues. These programs include an annual conference, Speaker's Bureau, lectures, workshops, seminars, and cultural enrichment forums.

Institute on Aging

The Institute on Aging is an interdisciplinary program of research, education, clinical care, and community service aimed at bettering the lives of Florida's and the nation's aging population. The goals of the institute are to educate a cadre of students equipped to understand and influence our rapidly aging society; to foster research in search of new paradigms to understand and undertake the challenges created by a rapidly aging society; to provide a resource for developing new models for an integrated continuum of care to promote healthy aging and to help those who are frail, sick and disable; and to create an institutional magnet for aging issues that attracts faculty collaboration as well as undergraduate and graduate student/faculty activities in all three goals of education, research, and service. (*see, Aging Studies Ph.D. under program description for the Department of Gerontology*)

SCHOOL OF ARCHITECTURE AND COMMUNITY DESIGN

Taking advantage of its diverse metropolitan setting in Florida's Tampa Bay region, the School of Architecture and Community Design offers unique opportunities for professional studies of the urban environment. Choices of both full- and part-time study at the master's level are provided to mature students pursuing varied career paths. The Florida Center for Community Design and Research, the School's research arm, offers a complementary setting for faculty and students to engage in real world basic and applied research.

Master of Architecture Program (M. Arch.)

The Master of Architecture Program at the University of South Florida is intended for students who hold baccalaureate degrees in fields other than architecture, though students with prior course work in architecture may be admitted with advanced standing. All students pursue the professional degree, **Master of Architecture (M. Arch.)**. This degree, coupled with appropriate work experience, qualifies a graduate for licensure as a professional architect. The Program is accredited by the National Architectural Accrediting Board (NAAB).

The NAAB has promulgated the following statements about architectural education:

Most states require that an individual intending to become an architect hold an accredited degree. There are two types of degrees that are accredited by the National Architectural Accrediting Board: (1) The Bachelor of Architecture, which requires a minimum of five years of study, and (2) The Master of Architecture, which requires a minimum of three years of study following an unrelated bachelor's degree or two years following a related pre-professional bachelor's degree. These professional degrees are structured to educate those who aspire to registration/licensure as architects.

The four-year, pre-professional degree, where offered, is not accredited by NAAB. The pre-professional degree is useful for those wishing a foundation in the field of architecture, as preparation for either continued education in a professional degree program or for employment options in architecturally related areas.

The curriculum emphasizes urban architecture and related topics in the professional coursework, as well as in elective courses that focus on urban issues. This emphasis is also reflected in the topics chosen by students for their Master's theses.

Additional Admission Requirements

Submit the following to the Admissions Committee, Architecture Program, USF, 4202 Fowler Ave., USF P.O. Box 30837, Tampa, FL 33620:

Three letters of recommendation from former instructors, employers, or others in a position to assess applicant's work and academic potential.

A letter of application and statement of intent regarding the applicant's educational and career objectives and choice of program.

For applicants with prior training in Architecture or related areas: samples of student work (portfolio).

For applicants without prior architectural training: samples of work demonstrating creative and artistic abilities and problem-solving skills.

It is assumed that students will have taken courses such as calculus and physics. Students lacking these must add appropriate courses upon admission to the program.

All candidates must interview with a faculty member responsible for admission. For more program information, contact the Architecture Program at (813) 974-4031.

Program Requirements

The M.Arch. degree requires 112 credit hours of coursework, including a thesis or Master's project. The typical course load per semester is approximately 14 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, must complete a minimum of 76 hours in the program (this residency requirement may be varied by action of the faculty) to be eligible for graduation. Courses in architecture are selected each semester with the consent of an assigned faculty adviser.

The program is concluded with a thesis that provides the opportunity to undertake a study of personal interest. The thesis calls for in-depth application of earlier course material, and demonstrates professional competence. No comprehensive exam is required.

Two tracks to the Master of Architecture degree have been identified. One, requiring full-time attendance, may be completed in eight semesters. The second, allowing part-time attendance, requires eleven semesters (usually including summer semesters) to complete. Diagrams of each track are available from the School.

Computers

The integration of computers with the design studio curriculum begins in the first semester with Architectural Design I (ARC 5361); however, it is expected that each student may be required to purchase a personal computer before entering Design III. The School will negotiate group prices on both hardware and software, although a range of computers will be specified so that students may be able to use equipment acquired earlier. Nevertheless, prospective students should check with the School to learn current requirements before seeking admission.

GPA of 3.0 in Design

In addition to the state-wide requirement that students maintain an overall grade point average (GPA) of 3.0 or better, the Architecture faculty also requires that students maintain a GPA of 3.0 or better in Design.

Field Trips

Each year students in the fall term Architectural Design I and/or The Building Arts take a joint field trip to Savannah, GA. Transportation is provided by the School; however the lodging and meals (\$100-\$200) are paid by the student. Additional spring field trips for students in Design II, IV, and VI are usually taken to such cities as New York, Boston, Chicago. The School defrays some of the transportation cost, and provides some scholarship assistance on the basis of need. The cost of these trips may be \$200 - \$600 per student.

Portfolios

The Faculty requires the submission of portfolios of personal work by each student at two formal portfolio reviews. The Portfolio policy is described in a handout available from the main office. Students are advised to prepare their design work for inclusion in their portfolios at the end of each design semester, instead of waiting until just before the portfolio due dates. Some expense, varying widely according to reproduction technique and/or ambition, should be anticipated.

COLLEGE OF ARTS AND SCIENCES

The College of Arts and Sciences is a community of scholars dedicated to the idea that educated people are the basis of a just and free society. The essences of education are a capacity for the appreciation of social change within a context of prior human achievement. The faculty of the Arts and Sciences strive to instill in their students a history of human ideas, a love of learning, and an understanding of the means that scholars have used in their search for beauty and order in the natural world.

The education provided by the disciplines of the Arts and Sciences is the foundation upon which the lives and professions of our students are built, and the basis from which personal growth occurs. The College of Arts and Sciences takes as its goal a melding of the natural, humanistic and social philosophies into a comprehensive whole that encourages the development of new ideas and new approaches to the understanding of our university.

It is the responsibility of scholars to share their discoveries for the betterment of society. Thus, the Arts and Sciences embrace the disciplines that strive to make immediate use of knowledge in the service of social goals as well as the disciplines whose discoveries contribute to the fund of basic information that is the stepping stone of applied knowledge.

Graduate Degree Programs

Master of Arts

American Studies	Anthropology	Applied Anthropology
Applied Linguistics	Chemistry	Classics (Coop, U.F.)
Communication	Criminology	English
French	Geography	Gerontology
History	Library and Information Science	Linguistics
Mass Communications	Mathematics	Philosophy
Political Science	Psychology	Rehabilitation Counseling
Religious Studies	Sociology	
Spanish	Rehabilitation Counseling - 5 Year Program	

Master of Science

Audiology	Aural Rehabilitation	Botany
Chemistry	Geology	Marine Science
Microbiology	Physics	Speech-Language Pathology
Zoology		

Master of Liberal Arts

Master of Public Administration

Master of Social Work

M.A. Program for Secondary School Teachers

The College of Arts and Sciences, in cooperation with the College of Education, offers the M.A. degree in English, Foreign Languages, Mathematics, Science, Social Science, and School Psychology. Because requirements apply in both colleges, the student will have an advisor in each college. The planned courses must be approved by both advisors.

For requirements, consult the College of Education portion of this Catalog.

M.A. Program for Junior College Teachers

The M.A. degree for Junior College Teachers is available with specializations in:

Biology	Chemistry	English	French	Geography
Geology	History	Mathematics	Physics	Political Science
Sociology	Spanish	Speech Communication		

For requirements, consult the College of Education portion of this Catalog.

Doctor of Philosophy

The Doctor of Philosophy degree is offered in the following:

Aging Studies	Applied Anthropology	Biology
Chemistry	Communication	English
Geology	Marine Science	Mathematics
Philosophy	Psychology	

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 Arts and Sciences, University of South Florida, Tampa, Florida 33620.

Thesis Enrollment

Upon successful completion of all M.A./M.S. degree requirements except for thesis, Arts and Sciences graduate students must enroll in a minimum of 2 credit hours of Thesis each semester (except Summers) until the completion of the master's degree.

Dissertation Enrollment

Doctoral students who have completed all degree requirements, and have been admitted to candidacy, are required to accumulate a minimum of 6 credit hours of Dissertation during each previous 12-month period (previous 3 terms, e.g., Fall, Spring, Summer) until the degree is granted.

American Studies (AMS)

See description under Humanities/American Studies

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. Core seminars in each of the four major branches of Anthropology are required of all students, followed by specialty courses in applied anthropology. 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 advisor, and a professional supervisor from the agency in which the internship is conducted. More than 170 graduates have been specifically trained for nonacademic employment in government and private-sector agencies and organizations. Graduates are employed in administration, program evaluation, planning, and research. **Deadlines for receipt of M.A. application materials are March 1, for admission in Fall (August) and October 15, for admission in Spring (January).**

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. 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 fosters applied research and action projects. 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.

M.A. in Applied Anthropology (APA)

Additional Admission Requirements

B.A. in Anthropology, or related discipline.

If B.A. is not in Anthropology, applicants must demonstrate they have taken and passed undergraduate Anthropology courses in the four subfields of Anthropology (Cultural, Physical, Archaeology, Linguistics), or they must satisfy these deficiencies prior to enrollment in master's level courses.

Program Requirements

1. Total required hours (40)
2. Comprehensive exams upon completion of relevant core courses, or equivalent.
3. Core requirements:
 - a. Four core courses (ANT 6186; 6490; 6588; 6676)
 - b. Four graduate level seminars in Anthropology (ANT 6196, 6197, 6198 for public archaeology students; ANT 6706, 6766 for others)
 - c. One graduate level statistics course
 - d. One graduate level course outside the Anthropology Department.
4. Internship, one semester full time, after completion of exams and course requirements, 4 credit hours minimum.
5. Thesis (6 credit hours), at least 2 credit hours per semester until thesis is accepted.

Ph.D. in Applied Anthropology (APA)

Additional Admission Requirements

M.A. in Anthropology

If M.A. is not in Anthropology, applicants must demonstrate they have taken and passed undergraduate Anthropology courses in the four subfields of Anthropology (Cultural, Physical, Archaeology, Linguistics), or they must satisfy these deficiencies prior to enrollment in doctoral level courses.

Program Requirements

1. Total required hours: 60 hours beyond the M.A.
2. Course requirements:
 - a. Nine structured courses within the Department of Anthropology (ANT 6706; 6766; 7703; 7704; 7760 [when the topic is quantitative methods]; 7932; 7933; 7934; 7936).
 - b. Two elective graduate level Anthropology courses.
3. Preliminary examination, covering the four subfields of anthropology.
4. Tools of research
 - a. Advanced quantitative methods (ANT 7760).
 - b. Two additional skills area; e.g., foreign languages, computer analysis, qualitative research methods.
5. External specialization; minimum of three graduate level courses taken outside the Department of Anthropology, with consent of advisor; students with M.A. degrees in disciplines other than Anthropology may, at the discretion of the Advisor and Supervisory Committee, use the M.A. as proof of the external specialization.

6. Qualifying examination covering area of specialization within applied anthropology and external specialization.

7. Two-semester internship or dissertation research; (ANT 7945, minimum of 6 credit hours).

8. Dissertation, based on research or internship; (ANT 7980, minimum of 12 credit hours). Students are required to accumulate a minimum of 6 credits in dissertation hours during each previous 12 month period (previous 3 terms, e.g., Fall, Spring, Summer) until the degree is granted.

Biology (BIO/BOT/MIC/ZOO)

Master's degrees are offered in Botany, Microbiology, and Zoology. The Ph.D. is offered in Biology. Areas of specialization in any of these degrees include: Marine Biology; Ecology (Tropical, Populational, Community, Behavioral, Physiological, and Chemical); Cell and Molecular Biology; Genetics; Physiology (Microbial, Plant, Animal); Neurobiology; and Systematics.

Students in a graduate program must be either active or on a leave of absence granted by the college. Students on active status must register for a minimum of 2 hours of graduate course work each semester. The student is responsible for meeting all requirements of the degree program.

General Graduate Requirements for Master's and Ph.D.

A departmental committee is appointed to supervise and guide the program of the candidate. The general University requirements for graduate work must be satisfied.

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 2 hours of research credit each semester (other than summer semester), until eligible to enroll in thesis or dissertation credits. No student shall be required to enroll for more than 9 hours per semester.

A student must be registered for an appropriate load (in no case fewer than 2 hours) in the college for the semester in which all degree requirements are satisfactorily completed.

A student whose cumulative GPA falls below 3.0 will be placed on probation and must meet the college probation requirements to be reinstated in good standing. A student who receives three grades below "B" in structured courses required by the advisory committee will be dropped from the program.

Registration in Research, Thesis and/or Dissertation Courses

Registration in courses entitled Directed Research, Thesis, or Dissertation must be with the approval of the major professor and must be commensurate with each student's research plan. Students may not register in either Thesis: Master's or Dissertation: Doctoral until a Supervisory Committee has been formed. 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.

M.S. in Botany, M.S. in Microbiology, M.S. in Zoology

Additional Admission Requirements

Application must be completed by February 15 by 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.

Must have a combined (verbal and quantitative) GRE score of at least 1000.

Non-native English speaking graduate students must score at least 570 on the TOEFL and at least 250 on the TSE to be eligible for a teaching assistantship.

Program Requirements

The M.S. degree requires completion of structured coursework, a research thesis or a review paper, and passing a comprehensive examination.

The departmental graduate director functions as the student's advisor until the student makes arrangements for a faculty member to serve as major advisor. The selection of a major advisor includes acceptance of the student by the faculty member. The major advisor and at least 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 chairman and the college dean and the Dean of the Graduate School. The major advisor and at least one of the committee members must be from the Biology Department.

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 in 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 the 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.

Ph.D. in Biology

Additional Admission Requirements

Application must be completed by February 15 by applicants who wish to be considered for assistantships. All other applications must be completed the twelfth week of the semester preceding the one for which application is made.

Must have a combined (verbal and quantitative) GRE score of at least 1100. Doctoral applicants applying in ecological disciplines are encouraged to take the advanced biology portion of the GRE.

Non-native English-speaking applicants must score at least 570 on the TOEFL and at least 250 on the TSE to be eligible for a teaching assistantship.

Program Requirements

The departmental graduate director functions as the student's advisor until the student makes arrangements for a faculty member to serve as major advisor. The selection of a major advisor 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 area of interest. The major advisor and at least four additional faculty constitute the student's supervisory committee. Three members must be from the Department of Biology, including the Advisor. The supervisory committee must be approved by the Departmental Chairman, the College Dean, and the Dean of the Graduate School.

Twenty credit hours are required in structured graduate-level courses, ten of which must be in the Biology Department. Ten hours must be at the 6000 level (unless the student enters the doctoral program with ten hours of 6000 level courses); then the 20 hour

requirement could be met with 5000 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 tools of research (languages, computer programming or other tools acceptable to the Graduate Faculty), and must pass a qualifying examination. This exam may be taken only after the structured hour and tools of research requirements have been completed. 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; 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 prior to the qualifying exam. If the doctoral degree is not awarded within five years after passing the qualifying examination, the examination must be retaken and passed.

The doctoral 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 Dean of the Graduate School. Following admission to candidacy, a student must enroll in BSC 7980 when engaged in research, data collection, or writing activities relevant to the doctoral dissertation. Advisors should assign the number of credits in this course in accordance with the six credit hour policy and 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 BSC 7980.

Any graduate work counted toward fulfilling the requirements for the Ph.D. degree must be completed within 7 years 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.

Chemistry (CHA/CHM)

The Department of Chemistry offers Doctor of Philosophy, Master of Science, Non-thesis Master of Arts, and combined Bachelor of Arts - Master of Arts degrees, each with specialization in the 5 traditional areas of chemistry: Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. The Chemistry graduate faculty is comprised of 21 full-time senior faculty members, all holding the Ph.D. degree. 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.

The excellent research facilities and very low student-faculty ratio combine to afford unique opportunities for advanced study in Chemistry. In addition to the 5 traditional areas, 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 Modeling, Polymers, Lasers and Photochemistry, Marine Chemistry, Photoelectron Spectroscopy (ESCA), Medicinal Chemistry, Electrochemistry, Nucleic Acid Chemistry, and Enzymology.

Additional Admission Requirements

A minimum of a 3.0 grade point average in all undergraduate chemistry course work

(including one year of general chemistry, one year of organic chemistry, one year of physical chemistry, one semester of quantitative analysis, one semester of instrumental analysis, one semester of advanced inorganic chemistry, and one semester of biochemistry),

A minimum of a 3.0 gpa in the last two years of undergraduate coursework,

A combined score of 1000 on the quantitative and verbal parts of the GRE,

Letters of recommendation from three or more people who know the student's academic background, and

A minimum of 550 on the Test of English as a Foreign Language (TOEFL) for applicants whose native language is not English, and a minimum of 250 on the Test of

Spoken English (TSE) for such applicants who are also applying for an assistantship.

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

All entering graduate students are required to take a series of diagnostic examinations. These examinations are in the five traditional areas of chemistry. 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. Successful performance on diagnostic examinations may permit waiving of core course requirements but will have no effect on hour requirements.

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 2 hours of research credit each semester, until the student is eligible to enroll in thesis or dissertation credits. No student shall be required to enroll for more than 9 hours total per semester. A student must be registered for an appropriate load (in no case fewer than 2 hours) in the College for the semester in which all degree requirements are satisfactorily completed. Additional requirements may be imposed.

A student who receives three grades below "B" in structured courses required by the advisory committee will be dropped from the program.

Registration in courses titled Directed Research, Thesis, or Dissertation 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 but does not submit a thesis or Dissertation but does not submit a dissertation will not be certified for graduation.

Students in a graduate program 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.

M.S. Degree in Chemistry

Program 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. A minimum of 4 semesters seminar registration and attendance is required.

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.

For information about the **Certificate of Concentration in Solid and Hazardous Waste Management**, contact the College of Engineering

Requirements for the Non-thesis M.A. Degree

All requirements for the M.S. degree not relating to thesis must be met. A total of 26 hours must be in formally structured Chemistry courses; 16 hours must be at the 6000 level. A review paper on a topic approved by the Supervisory Committee is required.

Ph.D. in Chemistry**Program 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. All full-time students must register for 1 hour of CHM 6935 during Fall and Spring terms, attendance is required.

Tools of Research Proficiency in two of three tools of research must be demonstrated. These include a reading knowledge of the chemical literature in a foreign language (usually French, German or Russian), a working knowledge of the commands and structure of a computer language (usually Fortran, Pascal, or C), and competency in electronic data searching.

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.

Following admission to candidacy, a student must enroll in CHM 7980 when engaged in research, data collection, or writing activities relevant to the doctoral dissertation. Advisors should assign the number of credits in this course in accordance with the 6-credit-hour policy and appropriate to the demands made on faculty, staff, and University facilities. Students not admitted to candidacy are not eligible to enroll in CHM 7980.

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 (CHM 7980) courses will constitute the major portion of the 90-hour Ph.D. degree requirement.

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.

Classics (CLA)

USF's Classics Program 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 Program Advisor.

Communication (SPE)

The Department of Communication offers a broad and integrated approach to 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 and the Doctor of Philosophy.

M.A. in Communication

Additional Admission Requirements

- A 3.2 GPA during last two years of undergraduate work, and a minimum Quantitative/Verbal score of 1000 on the GRE General Test;
- Three letters of reference from undergraduate professors with whom the candidate has studied during the last two years of the B.A. program;
- A substantive undergraduate research paper (or other evidence of writing ability) focusing on a topic appropriate to communication;
- 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.

Program Requirements

- I. Core Requirements (12 hours)
 - COM 6001 (3) COM 6400 (3) ORI 6930 (3) or 6435 (3) SPC 6231 (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, 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 advisor 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 advisor approval and an approved plan of study.

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

Ph. D. in Communication

Additional Admission Requirements

- A 3.2 GPA during the last two years of undergraduate study and 3.5 GPA in graduate work.
- A GRE score normally in excess of 1000 in the combined verbal and quantitative categories.
- Three strong letters of recommendation from qualified people familiar with the prospective student's academic and scholarly potential.

A formal statement of purpose or intent which reveals the applicant's carefully considered and explicit educational and professional objectives.

A sample of scholarly writing which shows promise of ability to conduct research and/or write effectively for a scholarly or professional audience.

Applicants with no previous graduate work will be expected to exceed the minimum standards and show exceptional potential to become scholars.

Program Requirements

Students normally take between 36 and 45 hours of coursework beyond the M.A. degree (not counting credits for dissertation research). Completion of the Ph.D. program in Communication normally requires a minimum of three years with at least one year in continuous full-time residence. To qualify for graduation from the Ph.D. program in Communication, a student must complete the following:

1. Establish a supervisory faculty committee approved by the Director of Graduate Studies and the Dean of the Graduate School.

2. Prepare a Plan of Study approved by the student's supervisory committee. The Plan of Study expresses the ways in which the student will show evidence of the following: (a) expertise in one of the central domains of communication study; (b) expertise in the research methodologies needed to carry out original research in the specialized area of concentration and; (c) expertise in a cognate area of study outside the department (at least 9 hours of coursework), which shall fulfill the tools of research requirement .

3. Pass a written qualifying examination covering the student's area of specialization, cognate field of study, and methodological competence by the end of 36 hours of coursework. This examination will be prepared and evaluated by the student's supervisory committee.

4. Complete and defend a dissertation approved by the students's dissertation committee which must include at least one member of the graduate faculty outside the Department.

Communication Sciences and Disorders (AUD/ARH/SPP)

The Department of Communication Sciences and Disorders is devoted to the study of normal and disordered human communication. Courses and practice provide the student with principles, research methods and application of knowledge about the spectrum of verbal and non-verbal communication. Diagnosis and remediation of communicative problems dominate the clinical component of this course of study.

The Master of Science degree offered through the Department 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 (Deaf Education or 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).

Additional Admission Requirements

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 coursework will be eligible for admission to the M.S. degree programs if the following minimum requirements are met:

A score of 1000 or greater for the GRE, and a GPA of 3.0 for the last 2 years of undergraduate course work.

Three letters of recommendation.

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 appropriate prerequisites. However, the department will frequently require completion of prerequisites prior to graduate admission due to enrollment demands. Prerequisite courses will not be credited toward M.S. requirements except with the approval of the department chairperson.

Program Requirements

All majors must complete the following Core Requirements. (8 Credits)

- SPA 5150L (2) (Speech-Language majors only)
- SPA 5132 (2) (Audiology majors only.)
- SPA 5552 (2) SPA 6601 (1) SPA 6805 (3)

Program Plans

1. Thesis Option: In addition to the Core Requirements, each student will complete 27 hours of elective course work and sufficient clinical practicum hours to satisfy the clock hour requirements as stated below. Also, each student must complete at least 1 hour of SPA 6910 (Directed Research) and a minimum of 5 hours of SPA 6971 (Thesis) and submit an approved thesis.

2. Non-thesis Option: In addition to the Core Requirements, each student will complete 27 hours of elective course work and sufficient clinical practicum hours to satisfy the clock hour requirements as stated below. Also, each student must complete an additional 9 hours of coursework and of these, at least 6 hours must be from within the department while 3 hours may be selected from another department. Prior to initiation of non-thesis option course work, the student must obtain approval from an advisor and the department chair.

M.S. in Speech-Language-Pathology (SPP)

Additional Admission Requirements

Applications will be accepted throughout the year; however, admission decisions will be made only for Fall semester. **Deadline for receipt of all application materials is April 1.**

Program Requirements

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 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 in the specialization area at the graduate level in which certification is being sought. Also required for graduation are the maintenance of a GPA of 3.0 for academic courses, the attainment of clinical competence determined by a GPA of 3.0 in clinical practica, satisfactory passage of the National Teacher Examination in the specialty of Speech-Language Pathology and successful completion of a thesis or non-thesis option. 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 (2) | SPA 5303 (3) | SPA 5403 (3) |
| SPA 5408 (3) | SPA 5506 (1-8) | SPA 5552 (2) | SPA 6106 (3) |
| SPA 6232 (3) | SPA 6245 (3) | SPA 6322 (3) | SPA 6401 (3) |
| SPA 6410 (3) | SPA 6413 (3) | SPA 6415 (3) | SPA 6505 (1-9) |
| SPA 6553 (3) | SPA 6601 (1) | SPA 6805 (3) | SPA 6906 (var) |
| SPA 6910 (var) <u>or</u> SPA 6971 (var) | | SPA 6930 (3) | SPA 7931 (3) |

M.S. in Clinical Audiology (AUD)

Program Requirements

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 in the specialization area at the graduate level in which certification is being sought.

Also required for graduation are the attainment of a 'B' or better in each graduate Audiology course, the attainment of clinical competence determined by a GPA of 3.0 in all clinical practica, satisfactory passage of the National Teacher Examination in the specialty of Audiology and successful completion of a thesis or non-thesis option. 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 5303 (3)	SPA 5312 (3)	SPA 5328 (3)	SPA 5403 (3)
SPA 5506 (1-8)	SPA 5552 (2)	SPA 6305 (3)	SPA 6316 (3)
SPA 6314 (3)	SPA 6322 (3)	SPA 6345 (3)	SPA 6354 (3)
SPA 6401 (3)	SPA 6422 (3)	SPA 6505 (1-9)	SPA 6601 (1)
SPA 6805 (2)	SPA 6906 (var)	SPA 6910 (var) <u>or</u> SPA 6971 (var)	
SPA 6930 (3)	SPA 7931 (3)		

M.S. in Aural Rehabilitation (ARH)

-- (Deaf Education or Hearing Impaired)

Students interested in certification as Teacher of the Hearing Impaired (Deaf Education) may elect to fulfill all requirements for the Certificate of Clinical Competence in Audiology or in Speech-Language Pathology. If this option is selected, students must meet academic and clinical standards and requirements as outlined above and meet requirements as follow. Programs for Teachers of the Hearing Impaired (Deaf Education) 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 5329	SPA 5401	SPA 5403	SPA 5552	SPA 6322
SPA 6326	SPA 6421	SPA 6422	SPA 6505	SPA 6601
SPA 6910	SPA 6930	SPA 6971	EEX 6545	
EDS 6050 <u>or</u>	EME 6284 <u>or</u>	EME 6426		

Criminology (CCJ)

The M.A. in Criminology is a two year program designed to provide the student with an in depth understanding of the Criminal Justice System while at the same time educating the individual with respect to the major ideas, issues, theories, and research comprising the field of Criminology. Students pursuing a Master's degree in the Department may follow one of three courses of study. The General course of study, sampling broadly from all of the offerings of the Department, is designed primarily for students who wish to pursue academic careers or go on to law school. The second and third are more specific concentrations of courses in either of the fields of Urban Law Enforcement or Community Corrections.

M.A. in Criminology

Additional Admission Requirements

In addition to meeting all general admission requirements of the University, each graduate applicant must submit to the Department:

Three letters of recommendation

A letter of interest in the program

A sample of the applicant's written work consisting of a minimum of 3 typed pages on a topic in criminology or related to the applicant's undergraduate major, and

Must have passed an acceptable undergraduate social science statistics course (CCJ 4700 or the equivalent).

Applications will be accepted throughout the year. However, acceptance decisions will be made twice a year.

For admission to the Fall semester, all materials including GRE scores must be submitted by March 31st of each year with notification to the applicant by April 30th.

For Spring semester, all materials including GRE scores must be submitted by September 30th of each year with notification to the applicant by October 31st.

Individuals who wish to take courses in the graduate program as non-degree seeking students must contact the Graduate Program Director prior to their first class appearance. Such students will usually be prohibited from enrolling in CCJ 6910, Directed Research.

All course work counted toward the degree must have the prior approval of the Graduate Program Director of the Department of Criminology. Such work may include up to 6 hours outside the department.

Program Requirements

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 6605 (3)

CCJ 6705 (3)

CCJ 6707 (4)

CCJ 6920 (1)**

CCJ 6971 (var)

The thesis will consist of an original piece of research which may be of either a quantitative or qualitative nature. 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 6605 (3)

CCJ 6705 (3)

CCJ 6707 (4)

CCJ 6920 (1)**

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 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 Area 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. Area Project proposals must be approved by the Director of the Graduate Program and by the student's supervisory committee. Those students developing projects will produce a written report in a format appropriate for explaining and sharing the project's outcomes.

Comprehensive examinations are administered to all students through intensive written exams in each of the four core CCJ courses: CCJ 6285, CCJ 6605, CCJ 6705, and CCJ 6707.

Further information on any aspect of the degree program may be obtained by writing the Director of the Graduate Program, Department of Criminology.

English (ENG)**M.A. 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.

Additional Admission Requirements

For Fall admission, application must be made by April 1; for Spring (January) admission, by October 1. Applicants must have:

- An undergraduate English major with an overall GPA of at least 3.3 and an English GPA of at least 3.5.
- A total quantitative and verbal GRE General Test score of 1000 or higher.
- 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.
- A 3-4 page statement describing the student's background, purpose for attending graduate school, and career goals.

Program 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 dismissed 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 a comprehensive exam. Specifics of the exam are described in the department's Graduate Handbook.

M.A. 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.

Additional Admission Requirements - See M.A. Program above.

Program Requirements

1. ENG 6009 (3) (this course must be taken early in the 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. Specifics of the exam are described in the department's Graduate Handbook.

Ph.D. in English

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.

Additional Admission Requirements

See above for admission deadlines.

One of the following:

1. An M.A. in English and a graduate GPA of 3.7.
2. 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.

A verbal GRE Test score of 650 or higher.

A 3-4 page statement, describing the student's background, purpose for attending graduate school, and career goals.

A critical essay written in a graduate humanities course accompanied by verification from the professor for whom it was written.

Three letters of recommendation sent to the Director of Graduate Studies, Department of English. At least two of these letters should be from professors 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 dismissed 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 departmental 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 dismissed from the program, subject to a review by the departmental Graduate Committee.

Geography (GPY)

Geography is the study of the human-environment relationship either in a global or more regional context. Physical geographers focus on physical/human interrelationships and the interconnections among the various physical environmental elements. Human geographers focus on human interactions with their own environmental constructions, both built and social. Physical and human geographers both rely on specific techniques, including cartography, geographic information systems, and field work, in their research. The Department of Geography provides the opportunity to pursue the study of geography with particular emphasis on applied work geared to help solve real world problems. To achieve this end, focus is on environmental issues such as geomorphic change, wetland use, and land use impacts on hydrologic systems.

Graduate seminars in human geography (GEO 6428) emphasize urban and economic issues such as inner-city decline, ethnic relations, and site location and local development. Graduate seminars are also offered in specific geographical techniques (GEO 6119) including computer cartography, field methods, geographic information systems, remote sensing, and spatial analysis. Finally, advanced graduate seminars on particular regions such as Latin and Middle America, North America, and Europe are offered (GEO 6195).

M.A. in Geography

Program Requirements

The M.A. degree in Geography requires the completion of either a thesis or an internship and written report.

Graduate students in Geography are required to complete 30 credit hours of graduate level courses in addition to the general graduate requirements of the university. A comprehensive written exam covering the general field of Geography is required of each student after they have completed a minimum of 15 graduate credit hours. Student also will be required to defend orally their M.A. thesis or internship project after its completion.

All students must take the following five core courses:

GEO 5058 GEO 6119 GEO 6209C GEO 6428 GEO 6195

Thesis track: GEO 6971

Internship track: GEO 6944

The remaining credit hours must be approved by the student's committee and major advisor, and may include up to 6 graduate credit hours outside the department.

Geology (GLY)

Geology incorporates the fundamentals of biology, chemistry, mathematics, and physics to study the earth, and the processes which affect our planet. The Department of Geology offers the M.S. and Ph.D. degrees in geology. The present graduate program includes specializations in carbonate geology, coastal geology, environmental geophysics, geochemistry, hydrogeology, mineralogy, paleontology, rock deformation, and volcanology.

M.S. in Geology

Additional Admission Requirements

A combined GRE score (verbal and quantitative) of at least 1000.

A GPA of at least 3.0 is required for the last 60 credits (2 years) for admission.

Applicants are encouraged, but not required, to take the advanced subject portion of the GRE.

Three letters of recommendation

A personal statement.

International students are required to take the TOEFL examination.

A structured field course (normally a summer field course in geology) is recommended.

Undergraduate deficiencies are determined by the applicant's declared area of interest. Applicants will be notified of coursework deficiencies at the time of admission. Deficiencies must be made up during the first year of full-time study, or the equivalent for part-time students.

Program Requirements

The Department of Geology requires a candidate for the M.S. Degree to complete at least 30 graduate credit hours. These hours are subdivided into 24 hours of structured coursework, of which at least 10 must be at the 6000 level, and at least 6 hours in thesis research (GLY 6971). The curriculum for a Geology graduate student varies depending on the area of research interest. Specific course work for the degree is determined via consultation between the student, his/her primary advisor and his/her student advisory committee. In addition to course work, graduate students are required to make a public presentation. Other pertinent information regarding graduate study is contained in the Department's Graduate Student Handbook, which is available upon request.

All degree candidates are required to maintain satisfactory academic progress at all times. Satisfactory academic progress toward the M.S. degree in geology is defined as progress in course and thesis work. Evidence of academic progress includes timely completion of departmental requirements such as selecting a primary advisor, forming a student advisory committee, completion of any prerequisites or deficiencies, timely progress toward completion of the thesis or project (non-thesis track) including meeting with the advisory committee once each semester, maintaining a satisfactory GPA, defending a thesis or project proposal, and making a public presentation. A schedule for meeting these requirements is contained in the Department's Graduate Student Handbook.

In addition, an internship M.S. option is available in hydrogeology. This program requires 30 hours of structured coursework, and a 3 credit hour internship/project. The curriculum includes a minimum of three courses in Civil Engineering and requires a comprehensive exit exam. The exam is based on coursework and the internship/project. The format will be determined by the hydrogeology internship committee. Normally, the exam is an oral examination following the student's presentation of the results of the internship/project to the hydrogeology internship committee. Internships must receive prior approval by the committee. Criteria for selecting appropriate internships/projects are contained in the Geology Graduate Handbook. In addition to the examination, the student must provide written documentation of the results of the internship/project which demonstrates appropriate professional and communication skills. A list of courses approved for inclusion in the internship option is available from the Department.

Certificate of Advanced Studies in Hydrogeology

The Department offers a Certificate of Advanced Studies in Hydrogeology which requires 24 hours of specified structured coursework. Details are available from the Department.

Certificate of Concentration in Solid and Hazardous Waste Management

See College of Engineering.

Ph.D. in Geology

Additional Admission Requirements

All successful applicants to the Ph.D. program in Geology are expected to present the following for admission to the doctoral program in Geology:

- A masters degree or equivalent, in an appropriate discipline,
- A minimum of a 3.0 overall GPA in all work prior to admission,
- A 1200 on the combined verbal and quantitative sections of the GRE,
- At least the upper 50% on the appropriate subject exam of the GRE,
- Strong letters of recommendation from faculty in both the undergraduate and graduate programs of the applicant (2 from each program).

Program Requirements

The Ph.D. program in geology has a requirement of at least two years of full-time residence after admission to the doctoral program. It need not be consecutive but must have at least one year (12 mos.) of consecutive residence. While meeting the residency requirement a student may not hold a job not directly related to his/her graduate program, and must be a full-time student in good academic standing.

A minimum of 15 semester hours of graduate (6000 level) structured course work after the masters or equivalent is required. Course requirements beyond this are at the discretion of the student's committee.

All doctoral students must maintain good standing in the Graduate School (overall GPA 3.0) and maintain satisfactory academic progress toward the degree. Any student that receives a C in a structured course will be placed on academic probation. This probation can be terminated by achieving no grades less than B in the subsequent semester of full-time enrollment. If a second grade of C is received the student is terminated from the doctoral program. Only courses in which the student receives a B or better may be counted toward the 15-hour, structured-course requirement.

The dissertation proposal must be submitted and approved no later than the first semester of their second year in the doctoral program. General examinations should be taken no later than the end of the second year in the doctoral program. The examining and dissertation committees are the same and will be comprised of no less than five members, at least four of which must be regular members of the USF Graduate faculty.

Admission to candidacy will be based on the results of a general examination administered by the student's committee. The format of the exam will be determined by the committee, but normally will consist of a written section or sections, followed by an oral examination chaired by the student's research advisor.

After admission to candidacy, all doctoral students will make at least one formal presentation of their research each year in the program including the year of admission to candidacy. Any appropriate venue is acceptable, e.g. Dept. colloquium, oral or poster session at a scientific meeting of at least regional scope.

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.

M. A. in Gerontology

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. Deadlines for receipt of M.A. application materials are March 15 for admission in Fall (August) and October 15 for admission in Spring (January).

Additional Admission Requirements

A GPA of 3.0 or greater and a combined (verbal and quantitative) GRE score of at least 900.

Program Requirements

The M.A. degree requires four 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 complete the minimum hours of approved courses in their concentration.

Prior to entering the program, each student must confer with a departmental advisor. A review of the student's academic background and career interests 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 5642 (3)
GEY 6600 (3)	GEY 6934 (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. All thesis-option students must, however, complete GEY 6450.

Additional course requirements

Concentration 1. Research

GEY 6455 (3)	GEY 6325 (3)	GEY 6910 (6)	GEY 6971 (6)
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Concentration 2. Program Planning and Administration

GEY 6325 (3)	GEY 6500 (3)	GEY 6617 (3)	GEY 6940 (6)
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Plus 3 hours of an approved elective.

Concentration 3. Direct Service and Mental Health

GEY 6614 (3)	GEY 6615 (3)	GEY 6616 (3)	GEY 6617 (3)
GEY 6618 (3)	GEY 6901 (3)	GEY 6941 (6)	

General Information Following completion of the necessary coursework there is a comprehensive examination designed to test the student's 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. 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. There are no language requirements.

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 departmental approval, take the sequence in mental health and receive a certificate.

Ph.D. in Aging Studies (Interdisciplinary)

The Interdisciplinary Ph.D. in Aging Studies is the first of its kind in the United States, and to the best of our knowledge, the world. What makes this program unique is the combined emphasis on providing a broad based foundation in the interdisciplinary aspects of aging with a focus on developing in-depth expertise in a research area. The program draws on the expertise of faculty from all colleges, departments, and centers at the University of South Florida to provide students with exposure to other disciplines and the different approaches to scientific and scholarly inquiry.

The Ph.D. in Aging Studies is augmented by a university-wide Institute on Aging, which is the organizational focal point for interdisciplinary research, educational, clinical and community service activities for faculty and students. Students in the Ph.D. program will become active members of the Institute on Aging and will participate in research projects, study groups, seminars, conferences and many other activities sponsored by the Institute.

The Ph.D. in Aging Studies is organizationally housed in the Department of Gerontology in the College of Arts and Sciences; however, the program is governed by an interdisciplinary committee of more than 40 faculty. Therefore, students can develop a research program which focuses on their particular interests.

Additional Admission Requirements

The Ph.D. in Aging Studies is a research oriented program designed to train future leaders in the field of aging. The program admits students who show exceptional promise to become

strong academic, public sector, and corporate researchers. Students should expect to enroll in the program full time (9 credits in fall, 9 credits in spring, and 6 credits in summer).

The minimum academic requirements for admission to the program are a GPA of 3.25 and a combined verbal and quantitative GRE score of 1100 with each sub-score being 500 or higher. Applicants from countries where English is not the language of instruction must also submit a score of at least 600 on the Test of English as a Foreign Language (TOEFL). In addition, students must submit their best example of a single-authored writing sample, and a summary of their career goals and past preparation for a research career. Three letters of recommendation from individuals familiar with the student's work and/or research are also required.

To obtain an application kit contact:

Dr. John H. Skinner, Director
Ph.D. in Aging Studies Program
Department of Gerontology
University of South Florida
4202 E. Fowler Avenue—SOC 107
Tampa, FL 33620-8100

Program Requirements

There are 4 three-credit courses that constitute the core interdisciplinary requirements for the program and 2 courses that fulfill the Tools of Research requirements. The Fall Semester requirements are enrollment in Health and Aging I and Population Aging. The Spring Semester requirements are enrollment in Health and Aging II and The Social Ecology of Aging. Each core course is taught from an interdisciplinary perspective with faculty from different fields addressing issues from their disciplinary perspectives. Students must also enroll in one research methods and one statistical/analytical methods course.

Students are required to enroll in the Aging Studies Pro-seminar (2 credits) each fall and spring semester in years two, three, and four. The pro-seminars investigate a different topic each semester and are led by faculty from different disciplines as well as guest speakers.

Students entering the program with bachelor's degrees may be advised by Advisory or Doctoral Committees to take additional courses to prepare them for careers as researchers and scholars in their area of specialization within Aging Studies. These additional courses can be taken in the second year, and in exceptional circumstances, year 3 of the program. Students entering with master's degrees in relevant disciplines may not need to take additional courses.

Faculty organization The interdisciplinary nature of the program is exemplified by the number of core faculty identified to teach in the program and the range of academic departments they represent. Over thirty faculty from ten colleges and research centers have been identified as the core faculty in the program. They represent over sixteen academic departments. Additional faculty are expected to augment the core faculty bringing increased diversity and interdisciplinary expertise to the program.

History (HTY)

The Department of History offers the M.A. degree. Members of the graduate faculty in History have earned recognition as teachers, scholars, and contributors to the community.

M.A. in History

Additional Admission Requirements

- Two letters of reference from professors with whom the candidate has studied (during the last two years of the BA program, if possible).
- A 2-page statement describing the candidate's background, purpose for attending graduate school, and career goals.

Students who do not have an undergraduate degree in history or those whose coursework is not compatible with their chosen major field may be required to take additional coursework prior to admission to the program.

Letters of reference and candidate's statement must be sent directly to the Graduate Coordinator, Department of History.

Program Requirements

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 5: Early Modern Europe to 1789 |
| Field 2: American History since 1877 | Field 6: Modern Europe since 1789 |
| Field 3: Ancient History | Field 7: Latin America |
| Field 4: Medieval History | |

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 master's level.

In addition to the general requirements of the University, a candidate is required to complete 36 hours in the following distribution: a 4-hour core course, 16 hours in a major field in history, and 8 hours in a minor field. 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 history courses.

Of the 36 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 advisors 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" is 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, 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 5736.

Upon admission, M.A. students will select an advisor who will arrange their programs of study. The student, in consultation with the advisor, solicits two other members to serve on a supervisory committee.

Humanities and American Studies (MLA/AMS)

The Department of Humanities and American Studies offers two M.A. degree programs. Both American Studies and Humanities are interdisciplinary. Humanities courses concern the societies and the arts of the cultures of the world. American Studies seeks to understand and explain the multi-faceted, pluralistic society and culture of the United States. For more details about curriculum and requirements, students are advised to consult the description of each specific M.A. below.

Master of Liberal Arts (MLA)

The Master of Liberal Arts offers 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 and American Studies.

Program Requirements

Liberal Studies option - Total required hours: (33)

Courses - 30 hours in courses from the approved course list. 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.

Satisfactory completion of a written comprehensive examination.

Thesis (3); Thesis Defense.

Humanities option - Total required hours: (33)

Courses - 30 hours from the 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.

Satisfactory completion of a written comprehensive examination.

Thesis (3); Thesis Defense.

Both options require the student to work closely with an assigned advisor. Prior to registering for the second semester in the Liberal Studies Sequence, the student must submit in writing to the Director a signed statement of intent to focus on a particular concept, idea, theme, or the like. This statement must be approved, dated, and signed by the Director and made a part of the student's record. Subsequent courses selected for study are expected to center around this stated focus. Variation from this focus must be approved by the Director.

Courses may be taken from any of the programs listed below:

American Studies	Anthropology	Art
Communication	Criminal Justice	English
Geography	History	Humanities
Interdisciplinary Social Science		Language
Mass Communications	Philosophy	Political Science
Religious Studies	Sociology	

Specific course listings for each option may be obtained from the MLA office, CPR 363.

M.A. in American Studies (AMS)

The Master of Arts in American Studies offers students the opportunity to study the immensely complicated social relations and cultural patterns that have unified and sometimes divided Americans. Students examine popular culture, as well as elite culture, heroines and heroes, the lives of ordinary people, in addition to recognized historical and cultural figures.

Additional Admission Requirements

Demonstrate a satisfactory knowledge of United States culture and ideas, history, literature, and social institutions. Students may be required to take extra undergraduate courses before admission.

Students must interview with a departmental advisor.

Students must submit three letters of reference to American Studies Graduate Director, Humanities and American Studies Department.

Program Requirements

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 American Studies and/or related departments, such as: English, History, Humanities, Philosophy, Religious Studies, Sociology, and Women's Studies. No more than 6 hours from any one department may be credited toward the degree without written consent from the Graduate Director. Work in AMS 6375, AMS 6901, AMS 6915, AMS 6934, and AMS 6940 may be included.
3. 6 hours: Thesis AMS 6971.

During the semester immediately following completion of required course work, each student should take a written examination on three areas of concentration, selected after consultation with the Graduate Director so that they will be relevant to the student's thesis.

The thesis is an extended research project within a specific area of specialization, culminating in a written academic analysis. Upon completion of the thesis, the subject of which must be determined in consultation with the Graduate Director, the student must schedule an oral defense.

Interdisciplinary Social Sciences (ISS)

Although a graduate degree is not offered, the ISS Program and its faculty have a broad range of interests such as health, metropolitan systems, Native America, and research methods.

Languages and Linguistics (FRE/SPA/LIN)

M.A. in French or Spanish

Additional Admission Requirements

Students may apply for admission into the Spanish and French M.A. programs during any academic term and not be limited to the Fall semester. 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.

Program Requirements

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 Languages and Linguistics), plus 6 hours of FRE 6971 or SPW 6971 (thesis).

Plan C The Division of Languages and Linguistics also offers a non-thesis track consisting of 36 hours. Consult the Director of Graduate Studies in the DLL for specific information on this option.

Special Summer Programs Overseas

The Division of Languages and Linguistics, 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 advisors or the International Affairs Center.

M.A. in Linguistics

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

Additional Admission Requirements

A minimum of 1000 on the combined verbal and quantitative portions of the GRE test. The verbal requirement may be waived for non-English speaking applicants. A "B" average (3.0) on all upper level undergraduate work.

Foreign students must score 560 on the TOEFL and 230 on the TSE or SPEAK.

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.

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 recommended; undergraduate course work equivalent to the material covered in LIN 3010 is strongly recommended.

Program Requirements--Thesis Option

I. Core Requirements (15 hours)

LIN 6081 (3) LIN 6322 (3) LIN 6520 (3) LIN 6601 (3) LIN 6715 (3)

II. Additional Requirements (18 hours)

12 hours of approved electives.

A thesis and 6 hours of thesis credit.

Program Requirements --Applied Linguistics (TESL)--Non-Thesis Option

I. Core Requirements (33 hours)

LIN 5700 (3) LIN 6081 (3) LIN 6351 (3) LIN 6675 (3) LIN 6715 (3)

LIN 6720 (3) LIN 6748 (3) TSL 5371 (3) TSL 5372 (3) TSL 5471 (3)

TSL 5525 (3)

II. Additional Requirements 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, as is demonstration of proficiency in a language other than the student's native tongue.

Library and Information Science (LIS)

The M.A. program in Library and Information Science has been accredited by the American Library Association since 1975. Students are prepared to assume a wide variety of service and leadership positions in libraries and information centers.

The mission of the School of Library and Information Science is to educate professionals who will serve the information needs of a culturally diverse, technological society. In pursuit of this mission, the School and its graduates will apply current standards and advance future principles for the organization, management, and use of the world's recorded knowledge, and will provide leadership in advocating public policies that foster the precepts of intellectual freedom and equitable access to information.

The goals of the School of Library and Information Science are as follows:

1. The School prepares professionals to respond to the needs for library and information services in a rapidly changing society.
2. Students apply and manage evolving information technologies to meet the needs of users.
3. Students apply professional principles necessary for the creation, selection, acquisitions, bibliographic control, storage and retrieval, preservation, interpretation, and dissemination of information in all media.
4. The School prepares students to promote access to information as an essential component of a democratic society.
5. The School provides an intellectual environment that fosters creative self-direction.
6. The School attracts highly qualified students and prepares them for responsible positions in the profession.
7. The school designs an appropriate curriculum and encourages effective teaching.
8. The faculty members of the School demonstrate a sustained record of research and scholarship.
9. The school encourages the participation of students in the production and evaluation of research.
10. The School maintains and develops community partnerships with library and information agencies.

11. The School supports professional organizations in the library and information field at local, state, and national levels.
12. The faculty members of the School support the University, the College, and the School through appropriate service activities.

M.A. in Library and Information Science

Additional Admission Requirements

In addition to University and College requirements, the School of Library and Information Science requires that applicants have these qualifications: a minimum undergraduate GPA of 2.5 with a verbal-quantitative combined score of 1000 or higher on the General Test of the GRE; or a minimum GRE score of 800 with an undergraduate GPA of 3.0 or higher. Additionally, the School requires each applicant to submit a typewritten or word-processed statement expressing personal reasons for wanting to pursue graduate study in librarianship.

Program Requirements

A minimum of 36 semester hours is required for the Master's degree program. Students must maintain an average of "B" or better and no more than two grades of "C" will be accepted. Transfer credit from other recognized graduate schools is limited to six semester hours taken within the last five years with grades of "B" or better. All transfers must be approved by the candidate's faculty advisor. Transfer credits must be posted to a student's permanent record no later than one full term prior to graduation.

Required Courses Four basic, or core courses, are required of all students seeking the Master's degree in Library and Information Science: LIS 5404; 6271; 6603; 6735, plus a planned program of electives developed for each student as approved by the advisor.

Courses Outside the LIS Degree Degree-seeking students are permitted to enroll in courses outside the Division of Library and Information Science when, in the context of the development of a purposeful program, an interdisciplinary approach seems appropriate. Students must obtain the approval of their faculty advisor.

Comprehensive Examination Students must pass a written comprehensive examination. Students are advised to take the exam in their last or second to last semester. Students must be enrolled for a minimum of two credit hours during the semester in which they take the comprehensive examination.

The Florida school media certification examination will be accepted in lieu of the School's comprehensive examination for any student wishing to follow this option. Proof of passing the examination must be submitted before the scheduled comprehensive examination in the semester the student plans to graduate. The School conducts comprehensive examinations only in the spring and fall semesters.

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.

ALIS provides programs and guest speakers of interest to the campus community, maintains several list serves, 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.

Marine Science (MSC)

The Department of Marine Science (DMS) offers M.S. and Ph.D. degrees in Marine Science. The student may emphasize biological, chemical, geological, or physical oceanography, or develop an interdisciplinary program in Oceanography through course work and thesis or dissertation research. More than 100 students are currently pursuing degrees under the direction of 25 full-time faculty. 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.

Additional information on faculty research and departmental facilities is available from the department upon request.

The department's location on St. Petersburg's Bayboro Campus allows immediate access to Tampa Bay and the Gulf of Mexico. Bayboro Harbor is home port to the R/V Bellows (71 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 is shared with FIO and is adjacent to the Florida Marine Research Institute (FMRI), the research arm of the Florida Department of Environmental Protection (DEP). A recently completed research building to be shared by DMS and FMRI will house a remote sensing, satellite data-acquisition center. With the Center for Coastal Geology and Regional Studies of the U.S. Geological Survey and the office of the Tampa Bay National Estuary Program also at Bayboro, our campus has one of the largest concentrations of marine scientists in the southeastern United States. Many of these scientists serve on advisory committees of DMS graduate students.

Additional Admission Requirements for M.S. and Ph.D. Degrees

In addition to University requirements for admission to graduate study, a baccalaureate degree in Biology, Chemistry, Geology, Physics, Mathematics, Engineering, Marine Science, or Oceanography, with a minimum of 2 semesters (or equivalent) of course work in each of the first five disciplines (e.g., Introductory Biology, General Chemistry, Physical and Historical Geology, General Physics, and Differential and Integral Calculus) generally provides adequate background for undertaking graduate studies in Marine Science.

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, a master's degree in one of the disciplines listed above will be a prerequisite for Ph.D. studies. Those with such degrees who have an upper-level undergraduate GPA of 3.0 or better and a combined (Verbal and Quantitative) GRE score of 1100 or better are encouraged to apply for either the M.S. or the Ph.D. program, as appropriate.

Students must submit official transcripts of grades and GRE scores (1100 min.);

Three letters of recommendation solicited by the applicant; and

A 1-2 page essay describing the applicant's research interests in Marine Science.

Application deadline for Fall admission is June 1; for Spring semester, October 15. Transcripts and GRE scores should be sent directly to the Graduate Admissions Office on the USF-Tampa campus; sufficient time should be allowed for processing by that office before materials are forwarded to DMS for review. Letters of recommendation and candidate's statement of research interest are sent directly to DMS.

Applications incomplete by the review dates will be reviewed, but may be updated to the next semester (Fall or Spring only) at the student's request. In addition to the standards noted above, research interests of the prospective student and the availability of suitable laboratory space and equipment will be considered by the Admissions Committee.

The department has graduate fellowship and assistantship funds, as well as tuition waivers. In addition, many faculty 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 are announced by April 15.

M.S. in Marine Science

Program Requirements

A committee, consisting of a major advisor and at least 2 other members of the graduate faculty, will be appointed to supervise and guide the program of each student. Students must complete a minimum of 32 credits under the following areas:

1. Core courses completed with a grade of "B" or better:
OCB 6050 OCC 6050 OCG 6051 OCP 6050
2. 6 credits of OCE 6971

Students must also complete a thesis and pass a final oral examination conducted by members of the student's advisory committee.

Ph.D. in Marine Science

Program Requirements

A committee, consisting of a major advisor and at least 4 other members of the graduate faculty, is appointed to supervise and guide the program of the candidate. One member shall be from a science department outside Marine Science. Students must meet all University requirements. In addition, students must complete

1. A core program consisting of OCB 6050, OCC 6050, OCG 6050, and OCP 6050 with a grade of "B" or better,
2. The "Tools of Research" requirement consisting of proficiency in one foreign language and one other skill directly relevant to the candidate's area of study,
3. A qualifying exam consisting of a written and oral portion,
4. A minimum of 16 credits of OCE 7980,
5. A dissertation, and
6. A dissertation defense examination. A student must receive a passing vote on the qualifying exam from at least 4 committee members before admission to Ph.D. candidacy. Following admission to candidacy, the student must enroll in OCE 7980 when engaged in research, data collection, or writing activities relevant to the dissertation. The student is required to accumulate a minimum of 6 credits during each previous 12 month period (previous 3 terms, e.g., Fall, Spring, Summer) until the degree is granted.

Mass Communications (COM)

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 Mass Communications, Public Relations, or Journalism.

M.A. in Mass Communication

Additional Admission Requirements

Submit three letters of recommendation and a written statement of the applicant's goals and interests in a graduate degree in mass communications. Applications will not be acted upon until the student's file is complete.

Program Requirements

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 Journalism Studies program emphasizes advanced practice and study in writing, reporting, ethics, and issues.

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 School 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. This includes nine hours of the mass communications core, nine hours of the public relations core, three hours in organizational communication studies, nine hours of electives and six hours of thesis.

The Journalism Studies program, housed on USF's St. Petersburg Campus, requires 36 hours of course work, including either a thesis for 6 credit hours or a professional project for 3 credit hours. As an option approved by the journalism studies faculty, students may

designate an area of specialization and take up to 15 hours through other departments of the university. Students are also eligible to participate for academic credit in certain seminars offered by the Poynter Institute for Media Studies, adjacent to the St. Petersburg campus.

All students are required to take a **comprehensive written examination** after they have completed at least 21 hours of mass communications course work.

Mathematics (MTH)

The Department of Mathematics at the University of South Florida includes 26 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.

Research interests of the faculty include the following fields: Abstract Analysis, Approximation Theory, Celestial Mechanics, Classical Analysis, Coding Theory, Combinatorics, Control Theory, Dynamical Systems, Finite Fields, Geometric Function Theory, Graph Theory, Lie Groups, Mathematical Logic, Nonlinear Analysis, Number Theory, Ordinary and Partial Differential Equations, Pattern Recognition, Probability, Real Analysis, Reliability, Special Functions, Statistics, Stochastic Processes, Theory of Computation, Topological Semigroups, and Universal Algebra.

M.A. in Mathematics

Additional Admission Requirements

In addition to University requirements, entrants to the M.A. program must have:

A Bachelor's degree in Mathematics, or a related area with strong mathematical content,

At least a 650 quantitative score on the GRE, and

At least a 3.5 GPA in undergraduate Mathematics courses.

Students with insufficient preparation in real analysis and/or abstract algebra will be required to take MAA 4212 and/or MAS 4301 before or during their first semester of study.

Program Requirements (Pure and Applied Mathematics Option)

A candidate must complete at least 30 credit hours in Mathematics, including two sequences, and receive at least a "B" average in both these sequences. A candidate who elects the thesis option must include at least one Core Sequence.

Core Sequences

Algebra: MAS 5107, 5311, 5312

Analysis: MAA 5306, 5307

Logic and Foundations: MHF 5306, 6307

Topology: MTG 5316, 5317

Elective Sequences

Applied Mathematics[†]: MAP 5407, and MAA 5405 or MAP 5345

Approximation Theory: TBA

Classical Analysis: TBA

Combinatorics^{*}: MAD 5206, 5207, and MAD 6617 or MAT 6932

Complex Analysis: MAA 6406, MAT 6932

Geometry: TBA

Dynamical Systems: TBA

Functional Analysis: MAA 6506, 6507

Integration: MAA 6616, 6617

Nonlinear Functional Analysis: MAA 6506, 6507, MAT 6932

Ordinary Differential Equations and Control*: MAP 5316, 5317, and 5205 or 6336
 Partial Differential Equations: MAP 5407, 5345, 6356
 Probability: STA 5446, 6447, 6206
 Theory of Computation: MAD 5101, 6510, 6616
 *The first 2 courses out of 3 suffice for M.A. students[‡] Not for Ph.D. students

In the lists above, MAT 6932 indicates a Selected Topics course in the area denoted by the title of the sequence. A candidate may petition the Mathematics Graduate Committee to recognize some other sequence of courses as an Elective Sequence.

Language Requirement Each student must either fulfill a computer language requirement, by demonstrating knowledge of a computer language, or show competency in either Chinese, French, German, or Russian. Competency is shown by either (a) passing two semesters of a beginning language course with a grade of “B” or better, or (b) passing FRE 1040 or GER 6060 with a “B” or better, or (c) passing a competency examination administered by the Division of Languages, or (d) graduating from a university where the language is the medium of instruction.

Comprehensive Examination Each candidate for the M.A. degree must either be examined on a thesis or pass one of the written Core Qualifying Examinations, which are offered in January, May and September: the syllabus for each exam is available from the Department, and is reflected in the contents of the corresponding Core Sequence. A student may repeat each examination once.

Thesis A student who elects the thesis option must register for a minimum of six credit hours in MAT 6971, only six hours of which may be applied towards the 30 hours required for the degree. The final comprehensive examination takes the form of an oral thesis defense, in which the candidate must also demonstrate knowledge of the general subject area of the thesis.

M.A. in Mathematics (Statistics Option)

The requirements are the same as for the Pure and Applied Mathematics Option, except that each candidate must either present a thesis or pass the Core Qualifying Examination based on:

Core Sequence

Mathematical Statistics: STA 5446, 5326, 6208

In addition to the Core Sequence, a candidate must complete the following Elective Sequence, and receive at least a “B” average in both these sequences.

Elective Sequence

Computational Statistics: STA 5156, 5167

Ph.D. in Mathematics (Pure and Applied Option)

Additional Admission Requirements

Applicants to the Ph.D. program must have

A Master’s degree in Mathematics

At least a 650 quantitative score on the GRE,

At least a 3.5 GPA in undergraduate Mathematics courses.

Two letters of recommendation indicating an aptitude for doctoral study.

Students with insufficient preparation in real analysis and/or abstract algebra will be required to take MAA 4212 and/or MAS 4301 before or during their first semester of study.

Program Requirements

The student must complete four sequences from among the Core and Elective Sequences, with at least a “B” average in each sequence, and at least 16 hours in MAT 7980. Students admitted to candidacy are required to accumulate a minimum of 6 credits of dissertation hours during each previous 12-month period (previous 3 terms, e.g., Fall, Spring, Summer) until the degree is granted. Two Elective Sequences with a course in common will be counted

as one sequence. A student who passes a core Qualifying Exam will be considered to have completed the corresponding Core Sequence.

Language Requirement This is the same as for the M.A., except that two languages are required; the computer language requirement may be substituted for one language.

Qualifying Examination A doctoral student is required to pass two of the Core Qualifying Examinations required for the M.A. degree (which may have been taken while an M.A. student), and at a level higher than suffices for the M.A. Both must be completed within 13 months after entering the Ph.D. program, unless an extension is granted by the Mathematics Graduate Committee.

After passing the Core Qualifying Examinations, the student will select a Dissertation Advisor, and a Doctoral Committee will be appointed by the Department Chairperson. The Committee will determine a course of study leading to the written Elective Qualifying Exam, which may be based on one of the Elective Sequences above, possibly supplemented by other material. The syllabus for this exam, and the names of two examiners from the Graduate Faculty, must be approved by the Mathematics Graduate Advisor at least one semester before the exam is to take place. A student is expected to complete all three exams within 25 months after entering the Ph.D. program, unless an extension is granted by the Mathematics Graduate Committee. A student may repeat each examination once.

Admission to Candidacy The student should apply for candidacy immediately after completion of the Qualifying Examinations and the Language Requirement.

Dissertation The dissertation is expected to contain new mathematical results which are worthy of publication. Research towards the dissertation typically forms the major part of the work required for the Ph.D. in Mathematics. *External examiner requirement:* the Dissertation Advisor will select an external examiner from a list provided by the Department Chairperson; the examiner should be both expert in the field, and familiar with the standard expected for a Ph.D. A copy of the dissertation must be sent to the external examiner for review at least four weeks in advance of the Final Oral Examination. The reviewer's report shall be circulated among the Doctoral Committee before the final oral examination. *Alternatively,* referees' reports on papers based on the dissertation and accepted for publication may be accepted in lieu of the external examiner requirement.

Progress Evaluation Each Spring Semester after admission to candidacy, the candidate shall give an oral presentation to the Doctoral Committee of the problem(s) under investigation. The presentation may also include a discussion of partial results. The Dissertation Advisor shall submit to the Department Chairperson a written report of the presentation.

Ph.D. in Math (Statistics Option)

The requirements are the same as for the Pure and Applied Mathematics Option, except that the student must pass the Core Qualifying Exams in Analysis and Mathematical Statistics; alternatively the student may take an exam based on the Probability Elective Sequence in place of the Analysis Core Qualifying Exam.

Philosophy (PHI)

M.A. in Philosophy

Additional Admission 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.

As a condition of admission to our graduate programs, students who have not previously done so will normally be required to complete work so that their academic background includes at least 9 hours in the History of Philosophy, 3 hours in Ethical Theory, and 3

hours in Introduction to Formal Logic. The Philosophy Department will be responsible for deciding which courses are to be taken, when they are to be taken, and whether they are to be completed before or after matriculation into a graduate program.

Program Requirements

1. Reading knowledge of a foreign language approved by the student's advisor.
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 advisor assigned by the Graduate Coordinator, and approved by a supervisory committee after an oral defense has been made, or passing grades of B- or better on each of the Ph.D. qualifying comprehensive.

Ph.D. in Philosophy

The Ph.D. degree in Philosophy is a research degree presupposing considerable knowledge of the main branches of the discipline besides a capacity for independent and critical thinking.

Additional Admission Requirements

- A B.A. degree or M.A. degree from an accredited institution,
- A composite GRE score (verbal and quantitative) of 1100,
- A GPA of 3.5 for candidates with a B.A. as well as those with previous graduate study
- OR-- Demonstrated ability in graduate level course work in philosophy,
- Three letters of recommendation, and
- A writing sample of approximately 20 pages or a copy of the M.A. Thesis.

Program Requirements

To obtain the degree of Ph.D., students must complete 90 hours beyond the baccalaureate degree. The first 30 hours may consist entirely of course work or a combination of course work and up to a maximum of 6 hours for thesis work. A maximum of 6 of the course work hours may be taken in courses from other departments in the university, provided the courses are approved by the Graduate Committee of the department.

Of the remaining 60 hours up to 24 but no less than 12 may be applied to the Ph.D. dissertation and up to 9 to independent study and/or directed research, if so desired. Again, a maximum of 6 credit hours may be taken from another department in the university, provided the courses concerned are approved by the Graduate Committee.

A student starting with an M.A. must complete 60 credit hours. These must be made up in the same way as prescribed for students starting with a B.A.

Logic Requirement Within two years of being admitted to the Ph.D. program every student is expected to have passed a course in symbolic logic with at least a grade of B.

Qualifying Comprehensives All Ph.D. candidates will have a written comprehensive examination in the History of Philosophy. This examination will be taken, at the latest, during the semester after completion of 18 graduate credit-hours in the Ph.D. program. The History of Philosophy comprehensive examination will be given twice per year: On the Monday and Tuesday after Thanksgiving vacation and the Monday and Tuesday after the Spring Break. A detailed list of readings and topics will be provided to students, and the questions will be formulated from that list. The examination must be passed with a least a B. Any examinee who receives a lower grade can retake the examination once more, but must do so the next time the examination is offered.

All Ph.D. candidates will also have take-home comprehensive examinations in Epistemology and Ethics. These examinations will be taken at the latest during the semester after completion of 36 graduate credit-hours in the Ph.D. program. The Epistemology and Ethics examinations will be given twice per year. These examinations must be typewritten or word-processed, and doubled-spaced. In the summer the questions will be given to examinees two weeks prior to the beginning of fall-semester classes and the examinations will be turned in ten days later. In the spring questions will be given to examinees on the

Friday before the one-week spring break and the examination will be turned in on the Monday following the Spring Break. A detailed list of readings and topics will be provided to students, and the questions will be formulated from that list. Each examination must be passed with at least a B. Any examinee who receives a lower grade on either examination can retake that examination once more, but must do so the next time the examination is offered.

Tools of Research Every student must pass an examination in two foreign languages including at least one modern language. ("Modern Language" here refers to French and German or a substitute approved by the Graduate Committee.) A student taking an ancient language for the second requirement will have a choice of Greek or Latin or an approved substitute.

The Dissertation A dissertation is mandatory for the Ph.D. in Philosophy. A student who has completed the Comprehensives and has fulfilled the language and logic requirements will be eligible to submit a detailed written dissertation prospectus and defend it orally. The proposal must be approved by the dissertation committee. Award of the degree will follow upon the successful defense of the completed dissertation.

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 Engineering Science, under an interdisciplinary arrangement between the Department of Physics and the College of Engineering. Similar arrangements may be considered with other disciplines. Students should consult with the Physics Graduate Advisor for details.

Thesis research areas include solid state physics, materials science, 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 mainframe, as well as machine, electronics, and glass-blowing shops.

M.S. in Physics

Additional Admission Requirements

Applicants must have a good undergraduate background in Physics, usually requiring a Bachelor's degree in Physics or in related fields such as Engineering, Mathematics, Chemistry, or similar disciplines.

Three letters of recommendation or reference commenting on an applicant's background and potential to pursue a graduate program in Physics/Applied Physics are required.

One-page statement outlining their research interests and objectives relating to the program.

Program Requirements

1. When a student is admitted to the graduate program in Physics, the student will consult with the Physics Graduate Advisor, who will be the student's course advisor and monitor the progress of the work. After a decision has been made concerning the student's academic goals, the duties of the graduate advisor will be assumed by the major professor and the 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.

2. 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.

3. 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.

4. The student for the M.S. degree with a thesis must present a thesis acceptable to the supervisory committee covering research work amounting to a minimum of 6 units of credit in PHY 6971.

5. The student for the M.S. degree without a thesis must pass a comprehensive examination set by the supervisory committee.

Ph.D. in Physics (College of Engineering--Ph.D. in Engineering Science)

For admission and program requirements, please consult the College of Engineering Program Description for the Ph.D. in Engineering Science.

Political Science (POL)

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.

M.A. in Political Science

Additional Admission Requirements

Three letters of recommendation from individuals familiar with the student's 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;

Have a good undergraduate background in Political Science, usually requiring a Bachelor's degree in Political Science or in a related field.

Students without a sufficient 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.

Program Requirements

For instructional purposes, the graduate curriculum in Political Science has been divided into seven fields:

Field 1 Political Theory

POS 5736 (3) POS 6247 (3) POS 6706 (3) POT 5626 (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 6007 (3) INR 6036 (3) INR 6107 (3)

Field 4 American National and State Government

POS 5094 (3) POS 6045 (3) POS 6095 (3) POS 6127 (3)

POS 6415 (3) POS 6427 (3) POS 6455 (3)

Field 5 Urban Government and Politics

POS 5155 (3) POS 6157 (3) URP 6056 (3)

Field 6 Public Policy

INR 6107 (3) POS 6095 (3) POS 6157 (3) PUP 5607 (3)

PUP 6007 (3) URP 6056 (3)

Field 7 Law and Politics

POS 6607 (3) POS 6698 (3) POT 5626 (3)

The following non-field courses may be used as elective hours:

POS 6909 (1-3) POS 6919 (var) POS 6933 (3)

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.

CPO 6091 (3) INR 6007 (3) POS 6045 (3) POS 6157 (3)

POS 6698 (3) POT 6007 (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

Required Core Courses

Students must take POS 5736 (Political Research Methods) within the first calendar year of graduate study. Also, the student must choose at least 2 of the following:

CPO 6091 (3) INR 6007 (3) POS 6045 (3) POS 6157 (3)

POS 6698 (3) POT 6007 (3) PUP 6007 (3)

All required core courses should be taken as early as possible in the student's M.A. degree program.

Thesis All students must write a thesis under the direction of a thesis advisor and a thesis committee approved by the Graduate Program Coordinator. A thesis proposal must be approved by the thesis advisor 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 advisor 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.

Comprehensive Examination Each student must pass a written comprehensive examination covering the fields in which they have concentrated their studies. These examinations must 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.

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. Nine of these credits must come from the following required courses:

CPO 6036

INR 6107

POS 5736

POS 6933

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 Attention, Behavioral Neuroscience, Cognitive Processes, Human Memory, Judgment and Decision Making, Perception and Vision. 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 coursework in the Selection, Training and Evaluation of Employees, Job Analysis, Motivation and Satisfaction, Organizational Theory, Human Factors, Organizational Change, and Evaluation. Methodological offerings across areas cover Psychometrics, Statistics, Causal Modeling, and Research Design.

M.A. in Psychology

The Department of Psychology does not admit students seeking a terminal M.A. degree in Psychology.

Program Requirements

The student must complete 30 hours of graduate Psychology courses. All students are required to complete 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 6406 | EXP 6608 | PSB 6056 | SOP 6059 |
| and one of the following (2 hours each): | | | |
| DEP 6058 | PPE 6058 | PSY 6605C | |

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.

Ph.D. in Psychology

The Ph.D. in Psychology is offered in the fields of Clinical, General Experimental, and Industrial/Organizational Psychology.

Program Requirements

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 two appropriate graduate 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. Successful completion of a comprehensive examination or major area paper.
3. A one-year internship in an approved clinical facility for Ph.D. students in the Clinical Psychology Program.
4. Six months of internship in approved industrial 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 and non-profit sectors. 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.

Master of Public Administration (M.P.A.)

Additional Admission Requirements

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 as demonstrated in the following:

Two letters of recommendation, one of which should be from a faculty member familiar with the applicant's academic performance and potential.

A one-page career statement, indicating how one's career goals and aspirations can be met by completing the M.P.A. degree.

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.

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.

Program Requirements

The M.P.A. degree normally requires 2 academic years of full-time study. The required curriculum is 40-49 credits, varying according to a student's prior work experience and the "exit" option chosen. 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 tailored focus of study, 3 hours for a problem report, and 1 hour of colloquium. A student must receive at least a "B" in each core course and for the problem report.

- Core Courses (15 hours)

PAD 6044 (3)	PAD 6060 (3)	PAD 6227 (3)	PAD 6307 (3)
PAD 6417 (3)			

- 2. Statistics/Methodology (6 hours)
 PAD 5700 (3), or POS 5736 (3), or SYA 6305 (3) or ANT 5937 (3)
 or equivalent (with Program approval), and PAD 6703 (3)
- 3. Public Sector Economics (3 hours)
 One of the following:
 ECO 6614 (3), or ECO 6525 (3), or ECO 6506 (3) PHC 6430 (3),
 or equivalent (with Program approval).

4. Fields of Concentration (12 hours)

Each student must select one of the following fields of concentration. With the approval and consent of an advisor and the M.P.A. Director, the student may design an individualized course of study that best meets the educational need. Three hours in each field are transferable to another field. Students can include up to 6 hours from another department/program in their concentration.

Selected courses, depending on their content, may be applicable to one or more fields of concentration. These are PAD 6907, PAD 6915, PAD 6934, and PAD 6935.

Area 1. Public Organizational Management

Students selecting this concentration must take PAD 6101, Public Organizations, and/or PAD 6105, Public Organizational Change. Additionally, each student should take 6-9 credits selected from the following options:

- Regulation: PAD 5605 or PAD 5612
- Administrative: PAD 5836 or PAD 5035
- Human Resource: PAD 6427 or MAN 6305
- Planning/Budgeting: PAD 5333 or PAD 6207
- Computer Use: PAD 6710 or GEB 6775

With advisor permission, any of the following courses may be substituted:

- | | | | |
|----------|----------|----------|----------|
| ANT 7936 | CCJ 6405 | CCJ 6455 | COM 6121 |
| ECO 6238 | GEY 6500 | INP 6056 | INP 7097 |
| MAN 6305 | MAN 6204 | MAN 6107 | MAN 6266 |
| MAN 6289 | MAN 6055 | PHC 6190 | GEB 6735 |
| POS 6045 | POS 6095 | POS 6127 | SYO 6545 |
| MAN 6135 | | | |

Area 2. Budgeting and Financial Management

Students must take PAD 6207 and PAD 6222. Additionally, 6 credits should be selected from the following courses:

- | | | | |
|----------|----------|----------|----------|
| ACG 6025 | ACG 6075 | ECO 6506 | ECO 6525 |
| ECO 6614 | FIN 6406 | | |

Area 3. Urban Management and Planning

Students selecting this specialization must take PAD 5333 and/or PAD 5807. Additionally, 6 to 9 hours should be selected from the following courses:

- | | | | |
|----------|----------|----------|----------|
| ANT 6447 | ECO 6614 | ENV 5614 | GEY 6325 |
| POS 5155 | POS 6095 | POS 6157 | SYA 6475 |
| URP 6056 | | | |

Area 4. Policy Analysis

Students selecting this specialization must take PAD 6365. Additionally, 6 to 9 credits should be selected from the following courses:

- | | | | |
|----------|----------|----------|----------|
| ANT 6197 | ANT 6573 | CCJ 6705 | CCJ 6707 |
| GEY 6325 | PHC 6150 | PHC 6151 | PAD 5035 |
| PAD 5612 | PAD 6037 | PUP 5607 | PUP 6007 |

5. Colloquium (1 hour) Each student must enroll for 1 credit (S/U) colloquium requirement (PAD 6926).

6. Internship (6 hours) 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 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. a. **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. An oral examination is also required, OR

b. Students are required to complete successfully two additional graduate level courses (6 credit hours) relating to Public Administration; and a comprehensive written examination (including an oral examination, if desired by the faculty).

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 for the problem report or the comprehensive written examination.

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.

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 advisor, the student may substitute an appropriate PAD elective(s) for the core course(s) bypassed.

Graduate Certificate in Public Management (GCPM)

Additional Admission Requirements

Admission is based on an overall assessment of the applicant's educational needs and career objectives. 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.

Program Requirements

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 graduate 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 Director of 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 6227 PAD 6307 PAD 6417

Rehabilitation Counseling (REH/REF)

The Department of Rehabilitation Counseling trains counselors to work with physically, mentally, emotionally, and chemically disabled individuals. Training emphasizes psychological, social, medical, and vocational aspects of disability, and also the development and refinement of personal adjustment counseling skills. Graduates with this M.A. are prepared for careers as both rehabilitation specialists and mental health counselors.

The Department 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 undergraduates with strong academic credentials, and undergraduates interested in this program should contact the department during their sophomore year.

The graduate program in Rehabilitation Counseling is fully accredited by the Council of Rehabilitation Education (CORE). Upon completion of the program, graduates are eligible to sit for the national examination to become a Certified Rehabilitation Counselor (CRC). With additional course work and 3 years' experience, graduates are also eligible to take the examination for state licensure as a Mental Health Counselor.

M.A. in Rehabilitation Counseling

Additional Admission Requirements

All students applying to the Department of Rehabilitation Counseling (REH or REF) must meet the following application deadlines: For Fall semester, March 30; for Spring semester, October 15. Students must have the following:

- Three letters of recommendation,

- A personal interview may be required at the discretion of the Department.

- An acceptable undergraduate social science introductory statistics course or equivalent.

- Students without this statistics background must complete such a course during the first semester after acceptance.

Enrollment is limited and applications are judged competitively, and meeting minimum admission standards does not guarantee acceptance.

Students admitted through the Five-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 combined (Verbal and Quantitative) score of at least 1000 on the GRE, or a "B" average on all work beyond 60 hours. All applicants must take the GRE. Five-year program students may earn a baccalaureate degree in another major under the conditions specified in the Undergraduate Catalog.

Program Requirements

The Department of Rehabilitation Counseling offers both a thesis and a non-thesis program. There is no language requirement; however, a comprehensive examination 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).

RCS 5080 (4)	RCS 5406 (3)	RCS 5404 (4)	RCS 5700 (4)
RCS 5802 (1)	RCS 6220 (4)	RCS 6300 (4)	RCS 6407 (4)
RCS 6409 (3)	RCS 6470 (4)	RCS 6740 (4)	RCS 6801 (1)
RCS 6825 (4)			

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 Five-Year Program (REF). Electives may be taken from Rehabilitation Counseling offerings or from offerings outside the department with the consent of an advisor.

Thesis Program All students are initially admitted to the non-thesis program. Admitted students may subsequently apply to the faculty for a thesis program. Students in a thesis program must complete a minimum of 50 hours in the Post-Baccalaureate Program (44-hr.) core curriculum plus a minimum of 3 hours of RCS 6970, and no less than 150 hours in the Five-Year Program (including 44-hour core curriculum plus 3 hours of RCS 6970). Additional hours to complete the minimum of 150 hours for students in the Five-Year Program may be elected from other Rehabilitation Counseling offerings or from related programs with the consent of the advisor. An oral defense of the thesis is required.

Religious Studies (REL)

The M.A. degree in Religious Studies provides opportunities for students with backgrounds in the scholarly study of religion to expand their knowledge of the social, cultural, and historical contexts of religion, to develop a greater in-depth knowledge of particular religious traditions, and to acquire proficiency with a wide variety of pertinent methodologies and theoretical perspectives. This degree serves the needs of students interested in teaching or as a step toward various professional programs, or to meet the needs of liberal arts education. It will be of special value to those interested in pursuing a doctorate in religious studies.

M.A. in Religious Studies**Additional Admission Requirements**

An undergraduate degree in Religious Studies, or equivalent preparation. Other undergraduate majors are acceptable, but students may be required to acquire additional competence in Religious Studies without receiving graduate credit.

A minimum score of 1000, including a minimum verbal score of 600, on the GRE.

Program Requirements

Students select a faculty advisor and develop a plan for completing a minimum of 36 credit hours, including a 6-credit-hour thesis project. The plan of study is subject to approval of the Graduate Committee. A majority of these courses will be in religious studies, although the plan may include approved courses in other departments. No more than 6 credit hours of 4000-level courses may be counted for graduate credit. There is no uniform language requirement; however, language skills may be required for particular areas of study. All students are required to demonstrate expertise in at least two religious traditions, as well as satisfactorily complete a written, comprehensive examination wherein students demonstrate competence in: 1) pertinent theoretical issues and research methodologies; 2) the analysis and interpretation of related texts, artifacts, and activities; and 3) social and historical contexts of the religions studied. The Department of Religious Studies "Graduate Student Handbook" should be consulted for additional information about basic requirements and specific procedures.

Social Work (MSW)

The School of Social Work offers a program leading to a Master of Social Work (M.S.W.) degree. The program is fully accredited by the Council on Social Work Education, the national accrediting body for social work education programs. 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 professions; 2) to contribute to the needed supply of professionally educated 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 should 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 practice; 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 biopsychosocial approach to the assessment of human problems; 6) practice competency in applying a biopsychosocial 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.

Students admitted to the M.S.W. program must 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 determined by the School may result in suspension or dismissal from the program. Entrance into the MSW program does not guarantee graduation from the program. Students must pass the comprehensive exam during the last semester in order to graduate from the program.

Students may pursue the M.S.W. program on either a full- or part-time basis. Both programs consist of 60 semester hours of study. Students should check directly with the School of Social Work for applications and timelines. The full-time program takes four semesters to complete; the part-time program lasts for nine semesters. Students with recently earned B.S.W. degrees from programs accredited by the Council on Social Work Education may apply for advanced standing and be exempt from up to 15 hours of foundation coursework, thus enabling them to graduate with 45 credit hours. Both the full- and part-time programs are heavily sequenced and students must stay in sequence. All students must obtain professional liability insurance prior to enrollment in field courses.

Master of Social Work (M.S.W.)

Additional Admission Requirements

A completed application form to the School of Social Work and to the Graduate Admissions Office by February 1 for the full-time program, and by 6 months prior to admission for the part-time program.

Previous social service related experience (minimum of one year post-undergraduate work or equivalent)

References from previous supervisors and faculty or advisors

A 500-word biographical sketch.

An interview with a Social Work faculty member may be required.

Program Requirements (non-B.S.W. students)

- A. Human Behavior and Social Environment Courses
SOW 6105 (3) SOW 6114 (3) SOW 6125 (5)
- B. Social Work Practice Courses
SOW 6342 (3) SOW 6305 (3) SOW 6348 (2)
SOW 6362 (3) SOW 6368 (3) SOW 6375 (3)
- C. Policy and Services Courses
SOW 6235 (3) SOW 6236 (3)
- D. Social Work Research Courses
SOW 6405 (3) SOW 6425 (2) SOW 6426 (1) SOW 6427 (1)
- E. Supervised Field Experience
for full-time students:
SOW 6534 (3) SOW 6535 (6) SOW 6536 (4)
For part-time students:
SOW 6544 (2) SOW 6545 (2) SOW 6546 (2) SOW 6547 (2)
SOW 6548 (2) SOW 6549 (2) SOW 6550 (2)
- F. Additional Requirements: Elective hours (6)

Summary

Foundation Courses (12 hours)
Advanced Courses (29 hours)
Field Courses (13 hours)
Electives (6 hours)
Total (60 hours)

Program Requirements (B.S.W. students eligible for Advanced Standing)

- A. Human Behavior and Social Environment Courses
SOW 6114 (3) SOW 6125 (5)
- B. Social Work Practice Courses
SOW 6342 (3) SOW 6348 (2) SOW 6362 (3)
SOW 6368 (3) SOW 6375 (3)
- C. Policy and Service Courses
SOW 6236 (3)
- D. Social Work Research Courses
SOW 6425 (2) SOW 6426 (1) SOW 6427 (1)
- E. Supervised Field Experience
for full-time students:
SOW 6534 (3)
for part-time students:
SOW 6546 (2) SOW 6547 (2) SOW 6548 (2)
SOW 6549 (2) SOW 6550 (2)
- F. Additional Requirements Elective hours (6)

Summary

Advanced Courses (29 hours)
Field Courses (10 hours)
Electives (6 hours)
Total (45 hours)

Sociology (SOC)

The Sociology M.A. graduate program offers an emphasis in interpretive sociology, which concentrates on the meaning of human actions in everyday and historical contexts. In conjunction with the USF Communication Department, Sociology has established an Institute for Interpretive Human Studies to link social sciences and humanities. We provide a basic foundation in general sociological theory and research methods (qualitative and quantitative),

and an opportunity for pursuing specialized interest in elective Sociology courses, courses in other departments, and thesis research. 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.

M.A. in Sociology

Additional Admission Requirements

Applicants should submit two letters of reference from previous instructors and a sample of written work. A TOEFL score is required of all international students. The department follows the University admission date, but students who desire full consideration for financial aid should submit completed applications by April 1, for Fall admission and by October 15, for Spring admission.

It is advisable for an applicant to hold a baccalaureate degree which provides background in sociological theory and research methods. Students without training 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 graduate director in consultation with the department graduate committee.

Students may enroll in graduate courses as a non-degree seeking student without formal application to the degree program, if they obtain permission from the graduate director. Students subsequently accepted into the Graduate Program may transfer up to 12 hours taken as a non-degree seeking student toward fulfilling M.A. degree requirements.

Applications and documents should be sent to the Office of Admissions. Query letters and letters of reference should be sent to the Sociology Department. Contact the Department of Sociology for further information.

Program Requirements

In addition to general University requirements, a minimum of 36 hours of graduate work including a thesis must be completed. Oral comprehensives take place during the thesis defense. The thesis project is carried out under the supervision of a faculty member chosen by the student. 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) SYA 6175 (3) or SYA 6315 (3)

Six of the additional 15 required hours must be in scheduled graduate courses in the Sociology program. The other 9 hours can be in independent study, directed research, 4000 level courses in Sociology or in approved courses in other departments.

Women's Studies (WST)

No graduate degree is available; however, one or more graduate courses are offered each semester, including Feminist Research and Methodology and Feminist Spirituality. Also offered are opportunities in Directed Readings and Directed Research.

COLLEGE OF BUSINESS ADMINISTRATION

Degrees Offered

Master of Business Administration, Master of Accountancy, Master of Arts in Economics, Master of Science in Management, and a Ph.D. in Business Administration.

General Program Information

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.

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., 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).

Financial Aid

Qualified individuals may apply for various forms of financial aid from the college. Apply to the Director of Graduate Studies, College of Business Administration, for graduate assistantships or scholarships (apply by April 1 for the following academic year).

The Graduate Business Association (GBA)

The 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.
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 Office of Graduate Studies in the College of Business Administration.

General Admissions Requirements

Admission to the graduate programs in the College of Business Administration is open to qualified applicants holding undergraduate degrees 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 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 test scores (GMAT or GRE), are the applicant's motivation in undertaking graduate work and the degree of focus in the applicant's career plans.

Students are admitted into the M.B.A. Program 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 master's programs in the College of Business Administration should submit all necessary materials, including test scores, to 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 4 (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, on a space available basis, non-degree seeking student status only for transient students (degree-seeking 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.

Contact Persons

Students interested in specific programs within the College should contact the persons listed below.

Ph.D. Program Coordinators:

Accounting - Cherie O'Neil	Finance - Scott Besley
Information Systems - R. Will	Management - Walter Nord
Marketing - James Stock	

Master's Program Coordinators:

<i>M.B.A. programs</i> - Steven Baumgarten	
<i>M.Acc.</i> - Robert Keith	<i>M.A. Economics</i> - Mark Herander
<i>M.S. Management</i> - R. Anderson	

Master's Degree Programs

Department requirements are listed under the appropriate program descriptions.

Doctoral Programs

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 students to build upon individual strengths and accommodates students with various levels of preparation in a variety of fields. The program offers majors in: Accounting, Finance, Information Systems Management, Marketing, and Management. Support areas are offered in these fields, as well as in Economics.

Additional Admission Requirements

Admission decisions for the Ph.D. program are made by departmental and college committees on a competitive basis. Applicants should have demonstrated high levels of success in their previous academic work and a high score on the Graduate Management Admissions Test (GMAT). GMAT scores over five years old are not acceptable.

The program is 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). Students may apply after conferral of their Bachelor's degree although a Master's degree is preferred. The Ph.D. in Business Administration is a *full-time* program.

All application materials must be received by the College by February 1. Decisions on admission and assistantships are usually made by the middle of March. 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 packet from the Doctoral Program, Office of Graduate Studies, College of Business Administration, BSN 2202; (813) 974-3335.

Program Requirements

A minimum of 90 semester hours beyond the bachelor's degree is required. This includes 21 hours of dissertation. A minimum of 45 hours of coursework must be completed at the University of South Florida.

Foundation Courses: These courses are designed to develop an appreciation of the institution of business and to help students see how their areas of specialization fit into this general picture. With the approval of the student's program committee, a student may satisfy these requirements in any of the following ways:

A. By completing an undergraduate degree in business at an AACSB accredited institution, with an average of "B" or better in the last 60 hours, no more than 5 years prior to admission to the Ph.D. program.

B. By completing an M.B.A. degree at an AACSB accredited institution, no more than 5 years prior to admission to the Ph.D. program.

C. By completing 3 credit hours of graduate coursework, with a grade of "B" or better, in each of the functional areas: Accounting, Finance, Information Systems, Management, and Marketing. (Economics requirements are described under core requirements.) All graduate level courses at the 6000 level or above, with the exception of specific "tool" courses (e.g. statistics), will count toward this requirement.

D. By successfully petitioning the doctoral Program Committee to accept previous academic work (e.g., specialized Masters programs in business, degrees granted more than 5 years ago, etc.) in fulfillment of all or part of this requirement.

Core Courses: The core 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 equivalent course with a grade of "B" or better within the preceding five years.

The Economics requirement can be met by completing two graduate level courses, one in microeconomics and one in macroeconomics, with a grade of "B" or better. The courses which satisfy this requirement are:

GEB 6114	Microeconomic Analysis	GEB 6204	Macroeconomic Analysis
ECO 6115	Microeconomic	ECO 6206	Aggregate Economics
ECO 6705	Advanced Managerial Economics		

At least one course must be an advanced Economics course (ECO prefix). The quantitative and statistical coursework is to be determined by the student's advisory committee in consultation with the student. A three course series is required.

An appropriate sequence should be chosen from the following:

ECO 6424	Econometrics I
ECO 6425	Econometrics II
GEB 6375	Applied Linear Statistical Models
QMB 7565	Introduction to Research Methods
QMB 7566	Applied Multivariate Statistical Methods

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. A student who fails the preliminary exam on the first attempt may retake it within one year. A student who fails the exam on the second attempt will be subject to dismissal.

2. Require the student to retake the course. If a student retakes the course and fails to receive a grade of "B" or better, the student is subject to dismissal.

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 a major field.

Support Area: The support area will consist of a minimum of three courses from one of the fields listed under the major fields, plus Economics. The support area and the major field cannot be taken in the same department. Courses within the support area 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 support area courses will be determined by the Student's Advisory Committee in consultation with the Ph.D. coordinator of the support area discipline department. Courses taken as part of the Foundation or Core courses may not be counted as part of the 9 hours required for support areas.

Comprehensive Examination: Upon completion of all coursework, students must pass a comprehensive written examination in the major area. The student's performance on this exam should reflect familiarity with the literature, as well as with current issues and problems related to these fields. A student who fails the field exam may retake it 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 and different examination must be taken. Students passing the field examinations are eligible for admission to candidacy for the Ph.D. program.

The decision to administer a separate comprehensive exam for a support area will be made by the department in which the support area is taken. In the event that an interdisciplinary support area is selected, any department represented by six (6) or more semester hours may require a comprehensive examination. In the event that no single

department represents six semester hours or more, the student's program committee will solicit input from the faculty teaching the courses in the support area. If a majority of those polled take the position that a separate comprehensive examination in the support area is not appropriate, the exam will not be administered. If a separate comprehensive examination is *not* administered in a support area, material from the support area will be integrated into the comprehensive exam in the major area.

Normally, field examinations will be administered in October and March of each year. A student who anticipates 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 exams will be a minimum of 8 hours. The Associate Dean's Office will coordinate with the relevant department in scheduling and grading the exam.

Dissertation: 21 hours of dissertation are required for the degree.

Residency Requirement: 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 (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 undergraduate degrees from accredited universities. 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.

Additional Admission Requirements

GPA in last two years of undergraduate work of 3.0 or higher.

Acceptable scores on the GMAT, approximately 500 or higher, or acceptable scores on the GRE, approximately 1050 or higher. The two quantitative measures may be considered in combination when one factor is low and the other is high.

Interviews generally are not required, but may be desirable in some instances.

Foreign students: TOEFL score of 550 or higher.

Program Requirements

The M.B.A. degree is a 57-hour program. All M.B.A. candidates must complete all degree requirements within five years of beginning the program. The full-time student without course waivers generally will need 6 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 on 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. 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), communication skills (written and verbal), and basic computer skills.

The curriculum consists of:

The Common Body of Knowledge: (CBK) courses, also known as the “TOOL” Area 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 undergraduate degrees in Business Administration may be eligible for waivers, subject to standards set by the faculty. The conditions for waivers are explained more fully below.

Application Areas: The application areas encourage the development of market driven competencies and provide students with distinctive sets of knowledge and skills. Each grouping of courses allow students to position themselves in the marketplace by choosing applications that match their career goals. Students will select 3 areas of competency, each with 9 credit hours. Application areas include such subjects as:

- | | |
|------------------------|---|
| Entrepreneurship | Economics for Business |
| International Business | Quality Management |
| Marketing Management | Information Systems |
| Financial Analysis | Government/Health Care Management |
| Management | Custom designed Application Area (designed by student in consultation with faculty) |

Competency Certification: Students will receive a certificate of achievement for the successful completion of each application sequence. Application area courses also include the opportunity to sharpen skills in writing, presentation, teamwork, technology applications, global applications and communication.

Integrated Business Applications: Integrated Business Applications is a six credit, two semester course sequence which emphasizes the integration and utilization of techniques and methods taught in the Tool and Application areas. The sequence involves working in both group and individual projects, with “live” as well as published cases. It utilizes a variety of computer applications, and includes the development of detailed business plans.

M.B.A. Course Structure

Common Body of Knowledge, “Tool” Courses: 24 credits

Financial Accounting	2
Managerial Accounting	2
Human Behavior and Organization	2
Managerial Economics	2
Managerial Decision Analysis	2
Global Business Environment	2
Marketing Management	2
Financial Management	2
Management Information Systems	2
Operations Management & Quality Enhancement	2
Social, Ethical, Legal Systems	2
Leadership	1
Total Tool Area Credits	24

Application Areas (Required Electives)

Application Track #1	9
Application Track #2	9
Application Track #3	9
Total Electives	27

Note: Some Application Tracks may not be offered each year. Additional application tracks may be developed based on students interests and needs.

Integrated Business Applications	6
Total Semester Credits Required	57

Constraints:

1. The maximum credits required is fifty-seven (57) and the minimum for a student with a business degree from an AACSB accredited institution within the last five years is thirty-six (36).

2. Students with an undergraduate degree in Business who are eligible to waive the tool area courses must complete an advanced course in six of the seven areas waived. Students do not need an advanced course in their area of undergraduate major.

3. Credits earned from core courses completed under the old program will not be counted toward the minimum 36 credits required under the revised program. However, these courses will be applied toward the breadth requirement for the new program.

Note: Tool/core courses may not be counted as electives.

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

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.

The Master of Accountancy (M.Acc.)

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. The M.Acc. program may be structured to satisfy the requirements to sit for the Uniform CPA Examination in Florida.

Additional Admission Requirements

A score of 500 or higher on the GMAT, or a score of 1050 or higher on the GRE. (The GMAT is preferred.)

Cumulative 3.0 GPA in all work while registered as an upper division student working for a baccalaureate degree.

Cumulative 3.0 GPA in all upper level undergraduate accounting courses.

Students who do not have the equivalent of an undergraduate degree in accounting at USF 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

For the student who has the equivalent of an undergraduate major in accounting at USF (including 30 hours of upper level accounting coursework taken within the last 5 years), the program consists of 30 hours. A minimum of 21 hours of the program is devoted to the study of professional accounting. The remaining 9 hours consist of study in other business areas including economics, entrepreneurship, finance, and information systems/decision sciences. These 9 hours are elected by the student in consultation with the M.Acc. advisor.

The School of Accountancy has implemented a 3/2 five-year program with the simultaneous awarding of both baccalaureate and master's degrees upon completion of this 156-hour program. Students may enter the program at the end of their junior year.

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 18 hours

ACG 6346	Cost Accounting Theory	3
ACG 6405	Accounting Systems Theory	3
ACG 6636	Contemporary Issues in Auditing	3
ACG 6815	Accounting Research Methods	3
ACG 6875	Development of Accounting Thought	3
ACG 6932	Integrative Accounting Seminar	3

One of the following:

ACG 4501	Governmental/Not-for-Profit Accounting	3
ACG 5201	Advanced Financial Accounting IV	3
ACG 5675	Internal and Operational Auditing	3
TAX 5011	Federal Taxation of Business Entities	3

Accounting Courses: Tax Track 15 hours

ACG 6815	Accounting Research Methods	3
ACG 6932	Integrative Accounting Seminar	3
TAX 6005	Taxation of Entities I	3
TAX 6015	Taxation of Entities II	3
TAX 6025	Taxation of Entities III	3

Two of the following:

ACG 6636	Contemporary Issues in Auditing	3
ACG 6875	Development of Accounting Thought	3
ACG 6936	Tax Concepts (Selected Topics)	3
TAX 6445	Estate Planning	3

Students in either track must also take the following:

Other Business Courses 9

Three elective courses must be outside the field of accountancy and require advanced written approval by the M. Acc. Advisor.

Total Hours 30

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.

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

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

Statistics for Managers	Legal Environment of Business
Financial Accounting	Leadership Assessment
Managerial Accounting	Management Information Systems
Management Process	Quantitative Methods for Managers
Taxation for Managers	Macroeconomic Analysis for Managers
Marketing Management	Financial Management
Marketing Decision Making	Microeconomic Analysis
International Business	Financial Management II

Business Problems Analysis Advanced Corporate Finance
 Strategic Management
 Bargaining Behavior and the Management of Conflict
 Administration of Human Resource Systems

During the interim summer session, each participant, in consultation with a faculty advisor, undertakes an applied research project that focuses on a work-related problem or opportunity of interest.

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 included visits to such cities as Moscow, London, Zurich, Geneva, Brussels, Tokyo, and Beijing.

Additional Admission Requirements

Applicants are considered for admission on the basis of individual applications and interviews. Each applicant must be nominated for the program by his or her employer. Applicants usually 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 or the GRE. For further information, please call the Office of Executive Programs, (813) 974-4876.

M.B.A. Program for Physicians

The M.B.A. Program for Physicians is a 21-month, 60-semester-hour, accredited program designed to meet the unique needs and demanding schedules of physicians who want to gain the business and management skills necessary to significantly increase their personal and organizational effectiveness. The program provides an opportunity for physicians to broaden and enrich their leadership skills; to extend their knowledge of modern business techniques; and to further their understanding of the social, political, and economic forces that shape the rapidly changing health care environment.

Because managerial effectiveness in an increasingly competitive yet highly regulated health care industry will require more than excellent clinical skills, the M.B.A. Program for Physicians is structured to enhance each participant's ability to think across functional lines and to apply analytical/business decision techniques to health care management.

The two-week resident sessions at the beginning of each trimester are designed to introduce the range of topics to be covered during the trimester and to provide concentrated instruction. Although formal classes meet from 8:00 a.m. to 5:30 p.m., computer labs and tutoring sessions as well as group work sessions meet most evenings from 7:00 to 9:30 p.m. During the balance of the 21-month program, program participants are expected to devote at least 15 hours per week to course readings, case studies, problem sets, and written assignments. Enhanced communication and learning assistance are provided via electronic mail and teleconferencing. (All program participants are expected to have access to a computer and modem either at their work sites or their homes. A non-credit course, "Decision Support Tools," is taught during the first resident session to ensure that all participants are comfortable with the basics of using personal computers and computer-based communication systems.)

The program leads to the academic degree of Master of Business Administration (M.B.A.) and consists of the following segments:

Decision Support Tools	Managerial Accounting
Management Process	Epidemiology
Statistics for Managers	Service Operations Management
Microeconomic Analysis for Managers	Management of Professionals
Strategic Planning	Financial Management I
Marketing Management	Marketing Strategies
Financial Accounting for Managers	Financial Management II
Macroeconomic Analysis	Management of Information Systems

- Total Quality Management
- Risk Management
- Management of Conflict
- Administration of Human Resource Systems
- Legal Environment of Business
- Health Policy Analysis
- Seminar in Organizational Change

In addition, program participants complete an Executive Preceptorship or independent research project. The preceptorship provides the opportunity for M.B.A. candidates to work in a "mini-residency" at an approved site under the tutelage of an experienced physician-executive. The Independent Research Project allows the physician to focus on a health care management opportunity or problem of his/her interest. This innovative program feature emphasizes hands-on learning and the application of skills gained in the program to each participant's special area of interest in health care management.

Additional Admission Requirements

The program is designed to meet the professional development needs of physicians who have assumed major administrative responsibilities within their own clinical areas or who want to make career transitions from clinical practice to management. Accordingly, all participants are licensed physicians (M.D. or D.O.) with at least six years of post-graduate clinical experience. Two or more years of management experience is preferred but not required. Admission is on a competitive basis for the limited number of spaces available. There is no entrance examination required for physicians who are licensed to practice in the United States. Applicants may be contacted for a personal or telephone interview.

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

The M.A. in economics prepares students for careers as professional economists in business and government. It is also excellent preparation for continued graduate study in economics.

Additional Admission Requirements

1000 on the GRE or 500 on the GMAT.

Strong motivation, aptitude, and basic intellectual ability are needed for success in graduate study in economics. An undergraduate major in economics is not required. Students with strong background in intermediate economic theory and basic mathematics and statistics can normally complete the program in one year. Students without such background may need to complete prerequisite courses in addition to the required 30 hours.

Program Requirements

All students are required to take courses in advanced economic theory and econometrics. Students preparing for professional careers choose additional applied courses in industrial organization, international economics, natural and human resources, and urban and public economics. Students preparing for doctoral studies select from these and additional courses in economic theory, mathematics, and quantitative methods. Where appropriate students may select courses in other departments in the University.

Students must satisfy all University requirements for the M.A. degree. Departmental requirements include 30 hours of graduate credit selected with the approval of the department's graduate advisor. At least 24 hours must be in Economics **not including Independent Study (ECO 6906) and Directed Research (ECO 6917).**

Required Courses:

ECO 6115	Microeconomics	3
ECO 6206	Aggregate Economics	3
ECO 6424	Econometrics I	3
ECO 6425	Econometrics II	3

To graduate a student must have an overall 3.0 GPA, and a 3.0 GPA for all Economics courses. Before being cleared for graduation, the student must satisfactorily complete a comprehensive examination.

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

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. 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 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 foundation for 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.

Additional Admission Requirements

The Admission Committee may require a personal interview.
Approximately 500 or higher on the GMAT.

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.

Students are required to complete the program within five years from the beginning of coursework. Students are encouraged to complete at least 6 hours each term.

Course Structure The program of studies normally includes the following courses:

Common Body of Knowledge Courses: 27 hours

ACG 6025	3	GEB 6114	3
FIN 6406	3	GEB 6445	3
MAR 6815	3	QMB 6305	3
QMB 6603	3	ISM 6021	3
GEB 6895	3		

Management Courses: 27 hours

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

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.

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 can be reached during normal business hours at (813) 974-5524.

COLLEGE OF EDUCATION

The College of Education is a professional school that seeks to contribute to the improvement and reinvention of public schooling through the preparation of teachers, administrators, specialized practitioners, and researchers. The College emphasizes learning that enables students to develop abilities in intellectual inquiry, problem solving, and leadership in order for them to function effectively in their field. The College is accredited by the National Council for the Accreditation of Teacher Education (NCATE). Its initial certification programs are approved by the Florida Department of Education.

The College offers a variety of graduate programs, including the Master of Arts (M.A.) degree, the Master of Education (M.Ed.) degree, the Education Specialist (Ed.S.) degree, the Doctor of Education (Ed.D.) degree, and the Doctor of Philosophy (Ph.D.) degree. Many programs are offered under the umbrella of "Curriculum and Instruction". Each of these programs has a specific area of specialization. The full title of each degree and its requirements are discussed in detail in the following pages.

Students seeking initial teacher certification must be admitted to one of the degree programs offered in the College. Individuals seeking additional information should contact the Office of Student Academic Services at 974-3500.

Departments and Programs

The College of Education is organized into seven departments and one school. Each department/school offers one or more degree program. Most M.A. programs offer three program plan options from among the following: I, II, III, or Dual Track (DT).

Please consult the Program Description Section of this catalog for program information prior to making an application for admission.

Department of Adult and Vocational Education

Adult Education: M.A. (III), Ed.S., Ed.D., Ph.D.

Business and Office Education: M.A. (I, II, III)

Distributive and Marketing Education: M.A. (I, III)

Industrial/Technical Education: M.A. (I, II, III)

Vocational/Technical Education: Ed.S., Ed.D., Ph.D.

Department of Childhood/Language Arts/Reading Education

Early Childhood Education: M.Ed., Ph.D.

Elementary Education: M.A. (I, DT, III), Ed.S., Ed.D., Ph.D.

Reading/Language Arts Education: M.A. (I, II, III), Ed.S., Ph.D.

Department of Educational Leadership

Educational Leadership: M.Ed., Ed.S., Ed.D.

*Junior College Teaching: M.A. (III)

Higher Education: Ed.S., Ph.D.

Department of Educational Measurement and Research

Measurement/Evaluation: M.Ed., Ed.S., Ph.D.

Department of Psychological and Social Foundations

Counselor Education: M.A. (I, II, III)
 School Psychology: Ed.S., Ph.D.

Department of Secondary Education

Art Education: M.A. (I, II, III)
 English Education: M.A. (I, II, III), M.Ed., Ph.D.
 Foreign Language Education (French, German, Spanish): M.A.(I, II, III), M.Ed.
 Instructional Technology: M.Ed., Ph.D.
 Mathematics Education: M.A. (I, II, III), M.Ed., Ed.S., Ph.D.
 Middle School Education: M.Ed.
 Science Education (Biology, Chemistry, Physics): M.A. (I, II, III), M.Ed.
 Science Education: Ed.S., Ph.D.
 Secondary Education: Ph.D.
 Social Science Education: M.A. (I, II), M.Ed.
 Theater Education: M.Ed.

Department of Special Education

Special Education
 Behavior Disorders: M.A. (I, DT, III)
 Gifted Education: M.A. (I, III)
 Mental Retardation: M.A. (I, DT, III)
 Specific Learning Disabilities: M.A. (I, DT, III)
 Varying Exceptionalities: M.A. (I, DT, III)
 Special Education: Ed.S., Ed.D., Ph.D.

School of Physical Education, Wellness, and Sports Studies

Physical Education: M.A. (I)

*Areas of Emphasis in Junior College Teaching: Biology, Business, Chemistry, Economics, Engineering, English, French, Geology, History, Mathematics, Physics, Political Science, Sociology, Spanish, Speech Communication.

The Ed.S. and Ph.D. degrees in Curriculum and Instruction with emphasis in Interdisciplinary Education are also available. The M.A. and Ph.D. are also offered in Music Education in collaboration with the College of Fine Arts (see Fine Arts section).

Master's Degree Programs

The College of Education offers graduate programs leading to a Master of Arts or a Master of Education degree. The M.A. program is primarily designed to increase competence in a teaching specialization or to provide professional preparation in one of the service areas of education. For most programs, 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 educational leadership or curriculum and instruction with a specialization in a given area. Students must have a minimum of two years of relevant educational or professional experience as judged by the program faculty.

Additional Admission Requirements

In addition to the university requirements, students must:

- Meet the college-specified minimum GRE and GPA requirements (Contact Office of Graduate Advising, College of Education for information).
- Satisfy any additional academic requirements of the program of specialization. Students may be required to take specified undergraduate course(s) if they do not have the necessary prerequisites for the graduate level course/program.
- Obtain favorable recommendation of the department chairperson/school director.
- Submit proof of certification and/or relevant educational experience (M.Ed. degree only).

General Program Requirements

During the first term after admission to the program, all students must file a planned program of studies, which is to be completed in consultation with an advisor. (No more than 12 hours of USF credit earned as a non-degree seeking student may be applied toward the Master's degree requirements.) Three copies of the completed program should be filed with the Coordinator of Graduate Advising in the College of Education.

If the student's GPA falls below the minimum 3.0, the student will be placed on probation. While on probationary status, the student's academic progress will be reviewed to determine: (1) removal from probation; (2) continuation on probation; (3) drop from graduate program.

During the last term of enrollment, students must perform satisfactorily on a **comprehensive examination or alternative measure (contact department)**. Students must be enrolled for a minimum of two graduate hours during the semester in which these exams are taken.

Graduate students with sufficient undergraduate background may take the **Process Core Examinations** after consultation with their advisors. The Process Core Examinations are available in Foundations of Measurement, Psychological Foundations, and Social Foundations of Education. Successful performance on the examination enables students to waive the course requirement, but they must take elective courses of equal hours. 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 of Arts (M.A.)

A minimum of 30 semester hours is required for the master's degree, at least 16 hours of which must be at the 6000 level.

Plan Requirements (I, II, III, DT)

Plan I: A program of study designed for those with a bachelor's degree and appropriate initial certification who desire to increase their competence in a subject specialization or receive professional preparation in one of the service areas. Plan I is not available in all areas. (Contact departments for further information.)

Process Core (3-11 hours) All Plan I students must take a minimum of one of the following Process Core (Foundations) courses. Additional process core requirements are described under Program Descriptions.

EDF 6432

EDF 6211 or EDF 6215

EDF 6481

EDF 6517 or EDF 6544 or EDF 6606

Current Trends Course in Teaching Specialization (3 hours)

Specialization (18 hours minimum)

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

Thesis Some programs have a thesis option. (Contact the department.)

Comprehensive Examination

Plan II: 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. Plan II is not available in all areas. (Contact departments for further information.)

Process Core (15 hours):

EDF 6432

EDF 6481

EDF 6211 or EDF 6215

EDF 6517 or EDF 6544 or EDF 6606

EDG 4620

Current Trends Course in Teaching Specialization (3 hours), plus undergraduate prerequisites as necessary.

Specialization (18 hours minimum) This is an individually planned major in the teaching field or in an appropriate College of Education program for K-12 specialists.

Internship (6 hours) This involves planned observation and teaching, supervised by a member of the University faculty and a school staff member. In-service teachers

are required to complete this assignment over two semesters. Before entering the internship, students should have completed the process core requirement 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).

Comprehensive Examination

Plan III: A program 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 Plan III and Plan II is that students will not be required to take EDG 4620 and the internship. Plan III is not available in all areas. (Contact departments for further information.)

Process Core (11 hours): Same as Plan II except EDG 4620 is not required.

Current Trends Course in Teaching Specialization (3 hours), plus undergraduate prerequisites as necessary.

Specialization (18 hours) This is an individually planned graduate major in an educational field.

Comprehensive Examination

Dual Track: (Elementary Education and Special Education Programs only). This program option is available for students with a baccalaureate degree who are not certified or eligible for certification in elementary education or special education and who wish to meet teacher certification requirements in these areas while pursuing a state approved graduate program. (Contact departments for further information.)

Master of Education (M.Ed.)

Two degree tracks are offered for students wishing to earn the M.Ed.— one in Educational Leadership and the other in Curriculum and Instruction with a specialization area. Students must have a minimum of two years of relevant educational or professional experience as judged by the program faculty.

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. 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 foundation 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.

The M.Ed. degree requires a minimum of 33 semester hours with 60 percent or more of the courses at the 6000 level.

Program of Study

Process Core (12 hours minimum)

EDF 6432

EDF 6211 or EDF 6215 or equivalent

EDF 6481

EDF 6517 or EDF 6544 or EDF 6606 or equivalent

Curriculum and Instruction (3 hours)

EDG 6627 (a prerequisite course may be required at the undergraduate level)

Specialization (18 hours minimum)

Comprehensive Examination

See individual program descriptions and contact relevant department for specific program requirements.

Advanced Graduate Degree Programs

The advanced graduate degree programs offered in the College of Education lead to the Education Specialist (Ed.S.), Doctor of Education (Ed.D.), and Doctor of Philosophy (Ph.D.), and are described below.

Students must meet the college-specified minimum GRE and GPA requirement in order to be considered for admission to any advanced graduate degree program. They must also be favorably recommended by program faculty or an admissions committee and comply with any other college or program requirements for the given degree program. Specific information about the degree programs is given under the department headings.

The Ed.S. and Ph.D. degrees with an emphasis in Interdisciplinary Education. These programs are administratively housed in the office of the Associate Dean for Academic Affairs. They provide opportunities for students who have educational backgrounds and interests that span a variety of disciplines, either in or outside the College of Education. For information contact the Interdisciplinary Program Coordinator, Dr. E. V. Johanningmeier, FAO 276, (813) 974-3246.

Educational Specialist (Ed.S.)

This degree is offered in Educational Leadership and in Curriculum and Instruction with a specialization area.

Additional Admission Requirements

- Meet College-specific minimum GRE and minimum GPA requirements (Contact Office of Graduate Advising, College of Education for information).
- Hold a Master's degree from an accredited institution of higher education (except for School Psychology applicants).
- Satisfy any additional academic requirements of the program of specialization.
- Submit three letters of recommendation from persons knowledgeable about the applicant's academic and professional competence.
- Obtain favorable recommendations from the program faculty.

Program Requirements

The Ed.S. degree consists of a minimum of 36 hours (includes 9 hours for the specialist project) beyond the master's degree and is flexible in its requirements. It is designed to provide professional educators with an opportunity to develop competencies in areas of special needs and interests. Consequently, the college has few required courses, and each student's program is individually planned in consultation with a faculty program committee. Courses at the 5000 level are not appropriate; and a minimum of 15 hours should be taken at the 7000 level.

Program of Study

- Specialization coursework (27 hours minimum)
- Thesis (Project)* (9 hours minimum)
- Comprehensive Examination (Oral and/or written)
- Oral defense of the project

The student is required to plan and successfully complete an individual thesis project. The purpose is to provide an opportunity for the student to apply knowledge gained in the program to the resolution of significant needs arising from professional practice. A minimum of 9 semester hours of thesis enrollment is required in the Ed.S. degree program. Students are required to enroll for a minimum of 2 semester hours in the 6971 thesis course each semester while actively working on the Ed.S. project and for 2 semester hours in the semester during which the student plans to graduate. Students who have not completed the project after enrolling in the required 9 hours must enroll in additional thesis hours consistent with faculty supervisory effort which according to USF policy, is a minimum of 2 credit hours each semester including the semester in which the project is submitted to the College Associate Dean for Academic Affairs.

Doctor of Philosophy (Ph.D.)

The Doctor of Philosophy degree is available in Curriculum and Instruction with specialization in the following areas: Adult Education, Early Childhood Education, Elementary Education, English Education, Higher Education, Instructional Technology, Interdisciplinary Education, Mathematics Education, Measurement and Evaluation, Music Education, Reading/Language Arts Education, School Psychology, Science Education, Secondary Education, Special Education, and Vocational Education.

Additional Admission Requirements

- Have a minimum total score of 1000 on the GRE (verbal and quantitative) taken within the last five years, AND
- Undergraduate level GPA of 3.0 minimum in the last half of the baccalaureate degree
OR Master's level GPA of 3.5 minimum
- Hold a Master's degree from an accredited institution of higher education (except for School Psychology applicants).
- Satisfy any additional academic requirements of the program of specialization.
- Submit three letters of recommendation from persons knowledgeable about the applicant's academic and professional competence.
- Obtain favorable recommendations from the program faculty.

Program of Study

Ph.D. program requires a minimum of 82 credit hours beyond the master's degree.

Specialization

Major Emphasis Area (18 hours minimum)

Curriculum & Instruction (3 hours)

Dissertation (30 hours minimum)

Cognate Area (12 hours minimum)

Statistics/Measurement/Research Design (11-12 hours, incl. Tool requirement)

Foundations (8-9 hours minimum)

Language/Computer Applications (non-credit)

Beginning with the semester immediately following admission to candidacy, the student must be continuously enrolled in **dissertation** hours (including the summer term) until the dissertation is successfully defended. A minimum of 30 hours is required; these hours must be completed within the first 6 semesters after admission to candidacy; 4 hours is the minimum enrollment allowed for any one of the 6 semesters. If the dissertation has not been completed by the time the 30 hours have been accrued, the student must enroll continuously, including the summer term, for a minimum of 2 dissertation hours per semester until graduation.

Exceptions to the continuous enrollment policy may be approved if the major professor writes a letter of petition to the Associate Dean for Academic Affairs, indicating specifically the nature and duration of the exception and the justification. Unless an exception has been approved, failure to enroll as specified will result in dismissal of the student from the program. To be readmitted, the student must secure permission from the major professor and write a letter of petition, co-signed by the major professor, to the Associate Dean for Academic Affairs, outlining in detail a timeline for completing the dissertation within one calendar year or less. The Associate Dean for Academic Affairs will approve or deny the petition. This process will be independent of, and will not replace, any procedures required by the University or the Graduate School for readmission.

Residency: 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 candidate. It is during the **residency** that much of this preparation occurs, although not necessarily in formal course work. To focus on training, each Ph.D. student is required to spend at least two

semesters in a 12-month period in full-time residency on the Tampa Campus. Full-time residency requires enrollment in a minimum of 9 semester hours each semester. 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 must be approved by the student's doctoral 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.

Students must satisfy the **Tools of Research Requirement** prior to taking the Doctoral Qualifying Examinations. (See current College of Education Graduate Handbook; also consult Program Advisor)

Students must demonstrate satisfactory performance in the **Doctoral Qualifying Examination** before admission to candidacy. (See current College of Education Graduate Handbook; also consult Program Advisor).

Doctor of Education (Ed.D.)

The Doctor of Education degree is available in Educational Leadership and in Educational Program Development with an emphasis in Adult Education, Elementary Education, Special Education Administration and Supervision, 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.

Additional Admission Requirements

Same as Ph.D. and Certification in the field in which the student is seeking the Ed.D.

Program of Study

The Ed.D. requires a minimum of 82 hours beyond the master's degree.

Specialization

Major Emphasis Area (24 hours)

Curriculum and Instruction (6 hours)

Dissertation* (30 hours)

Statistics/Measurement/Research Design (11-12 hours)

Foundations (11-12 hours)

Dissertation (30 hours minimum)

The Dissertation and Qualifying Examination requirements are the same as for the Ph.D. **Residency:** Individual Ed.D. programs may have additional residency requirements. **The student must enroll for at least nine hours in each of two semesters in a 12-month period.**

Dept. of Adult & Vocational Education and Human Resource Development

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

M.A. in Adult Education (AAE)--Plan III

This degree is intended to help individuals work with adult learners in a wide variety of school and non-school settings.

Program of Study (36 hours non-thesis option)

Process Core (6 hours) EDF 6481 or EDF 6432 and one approved Psychological or Social Foundations course.

Current Trends in Adult Education (4 hours) ADE 6080

Specialization (26 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.

Specialization in Adult Education (12 hours minimum)

Required courses: ADE 6385 EVT 6930

Remaining hours to be selected from among:

ADE 6160 ADE 6161 ADE 6197 ADE 6360

ADE 6370 ADE 6380 ADE 6387 EVT 5664

Electives (14 hours) Courses in a related area may include those from psychology, sociology, guidance, administration, gerontology, or any related field. At least one course must be taken outside this Department.

Thesis A thesis option is available.

M.A. in Adult Education--Training and Staff Develop. (ADE-TSD)--Plan III

The Training and Staff Development (TSD) program 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 of Study (36 hours non-thesis option, selected in consultation with an advisor)

Process Core (6-7 hours) EDF 6432, EDF 6481 and/or EDF 7485 or the required Foundations (EDF) courses listed in the Area of Specialization.

Specialization Requirements of up to 24 hours 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 of Specialization.

ADE 6385* EDF 6165* EDF 6166* ADE 6946*

EDF 6167* EDF 6281* ADE 6370 EDF 6288*

EDF 7655 ADE 6360 EVT 5369

MAN 6305 or MAN 6204 or SYO 6545

* or equivalent.

M.A. in Business and Office Education (ABE)--Plan I**Program of Study**

The program requires 32 hours minimum, selected in consultation with an advisor

Process Core (12 hours)

Current Trends (3 hours) EVT 6661

Specialization A minimum of 16 hours in Business and Office Education

Electives (3 hours minimum)

Thesis Thesis option is available.

Plan II and III programs are also available for non-certified students (see Master of Arts Plan Requirements section)

M.A. in Distributive and Marketing Education (ADE)--Plan I**Program of Study** (32 hours minimum, selected in consultation with an advisor).

Process Core (12 hours)

EDF 6432 EDF 6481 EDF 6211 or EDF 6215

EDF 6517 or EDF 6544 or EDF 6606

Current Trends (3 hours) EVT 6661

Specialization A minimum of 11 hours in Distributive and Marketing Education or related areas of Adult and Vocational Education selected in consultation with an advisor and depending upon the individual's background and experience.

Electives 6-8 hours in a related area, such as Business Administration, Administration, Supervision, Counselor Education, Special Education

A Plan III program is available for non-certified students. (See Master of Arts Plan Requirements section)

M.A. in Industrial-Technical Education (AIT)--Plan I

Additional Admission Requirements

In addition to the above requirements, applicants must have met the work experience and professional preparation requirements for certification in Industrial, Technical, Health Occupations, or Technology Education.

Program of Study (36 hours minimum, selected in consultation with an advisor)

Process Core (6 hours)

Current Trends in Industrial/Technical Education (3 hours) EVT 6661

Specialization (18 hours)

Electives (9 hours minimum)

Plan II and III programs are also available for non-certified students. (See Master of Arts Plan requirements section).

Ed.S. in Curriculum and Instruction with an Emphasis in Adult Education (SAE)

Prepares practitioners and teachers for the broad field of Adult Education; includes public and proprietary schools, public school and non-school settings such as agencies, institutions and business and industry.

Additional Admission Requirements

Applicants must have previous experience or a strong desire to work with adults in meeting their formal or informal educational/training needs.

Program of Study (36 hours)

Specialization (18 hours)

Electives (9 hours)

Project (9 hours)

Ed.S. in Curriculum and Instruction with an Emphasis in Vocational Education (SVO)

Prepares practitioners and teachers for the broad field of Vocational & Technical Education; includes public and proprietary schools, and non-school settings such as agencies, institutions and business and industry.

Additional Admission Requirements

Applicants must have previous degree or relevant experience in vocational, technical, career education or closely related field.

Program of Study (36 hours). Same structure as in Adult Education.

Ed.D. in Educational Program Development with an Emphasis in Adult Education (EAE)

Prepares leaders for a variety of school and non-school settings such as community colleges, preparatory schools, agencies, institutions, corporate training centers and others. The Ed.D. may be pursued while maintaining full-time professional employment.

Additional Admission Requirements

In addition to the above requirements, applicants must

- Submit a personal statement of his/her vision for Adult Education for the future.
- Interview with the department doctoral committee.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree

Specialization

- Specialization in Adult Education (24 hours)
- Curriculum (6 hours)
- Dissertation (30 hours, see page 106)

Statistics/Measurement/Research Design (12 hours)

Foundations (11-12 hours)

Ed.D. in Educational Program Development with an Emphasis in Vocational Education (EVO)

Prepares leaders for a variety of school and non-school settings such as public schools, technical institutes, community colleges, the military, agencies, institutions, corporate training centers and others. The Ed.D. may be pursued while maintaining full-time professional employment.

Additional Admission Requirements

Applicants must satisfy the following

- Hold a previous degree and relevant experience in vocational, technical, career education or closely related field.
- Submit a personal statement of the applicant's vision for Vocational Education for the future to the program coordinator.
- Interview with the department doctoral committee.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree. Same structure as Ed.D. in Adult Education; specialization is in Vocational Education.

Ph.D. in Curriculum and Instruction with an Emphasis in Adult Education (DAE)

Prepares leaders, researchers, university faculty, and related personnel to serve in the broad field of Adult Education.

Additional Admission Requirements

Applicants must satisfy the following

- Submit a personal statement of the applicant's vision for Adult Education for the future to the program coordinator.
- Interview with the department doctoral committee.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree.

Specialization

- Specialization in Adult Education (18 hours)
- Curriculum (3 hours)
- Dissertation (30 hours, see page 106.)
- Cognate** (12 hours) — Measurement/Research cognate required
- Statistics/Measurement/Research Design** (12 hours)
- Foundations** (8-9 hours)
- Language/Computer Applications** (non-credit)

Ph.D. in Curriculum and Instruction with an Emphasis in Vocational Education (DVO)

Prepares leaders, researchers, university faculty and related personnel to serve in the broad field of Vocational-Technical Education.

Additional Admission Requirements

Applicants must satisfy the following

Hold a previous degree and relevant experience in vocational, technical, career education or closely related field.

Submit a personal statement of the applicant's vision for Vocational Education for the future to the program coordinator.

Interview with the department doctoral committee.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree. Same structure as Ph.D. in Adult Education, except Cognate Area is not required to be in Measurement/Research; specialization is in Vocational Education.

Department of Childhood/Language/Arts/Reading Education

The Childhood/Language Arts/Reading Education Department offers the M.A. degree in Elementary Education and in 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. The Ph.D. in Curriculum and Instruction with an emphasis in Early Childhood Education is currently being offered, and Early Childhood certification may be included in the M.Ed. degree (contact the department chair for information).

M.A. in Elementary Education (AEE)--Plan I

Additional Admission Requirement

Applicant must be eligible for certification as an elementary teacher.

Program of Study

Four areas of emphasis are offered. Each area requires a minimum of 33 hours.

Process Core (6 hours) EDF 6481, EDF 6120 or EDF 6215* or equivalent
(EDF 6215 is required for the Literacy in a Diverse Society of Emphasis.)

Required Program Core (6 hours): across all areas of emphasis.

EDG 6935 LAE 6415 or EDG 6931* (Trends in Literature)

(EDG 6931 is required for the Literacy in a Diverse Society Emphasis.)

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

A. **Elementary Curriculum Emphasis:** An individually planned program of courses selected in consultation with a departmental advisor (minimum 21 hours)

B. **Language Arts Emphasis:**

Current Trends in Language Arts Education (3 hours) LAE 6616

Specialization (18 hours)

LAE 6301

LAE 6315

RED 6544

RED 6545

THE 6720

RED 6116 or elective

C. **Early Childhood Emphasis Requirements**

Current Trends (3 hours) EEC 6261

Specialization (18 hours)

EEC 6406

EEC 6405

EEC 6705

EEC 6926

Electives (6 hours)

- D. Literacy in a Diverse Society Emphasis Requirements This program leads to ESOL endorsement.

Current Trends (3 hours) LAE 6616

Specialization (21 hours minimum)

RED 6544

RED 6545

LAE 6301

EEX 6248

TSL 5525

TSL 5371

EDG 6931 (Global Perspectives)

Dual Track and Plan III Programs are also available for non-certified students. (Contact the department for information concerning the dual track program.)

M.A. in Reading Education (ARD)--Plan I

This degree is designed to prepare special reading teachers, clinicians, supervisors, directors, and coordinators of reading for school systems.

Additional Program Requirements

Students entering the program with an undergraduate major outside of elementary education will be required to take RED 4310, RED 4511, and LAE 4414 or LAE 6415 before beginning the specialization sequence.

Program of Study (30 hours minimum).

Process Core (3 hours) EDF 6481

Current Trends in Reading Education (3 hours) RED 6116

Specialization (21 hours minimum)

RED 6247

RED 6365

RED 6540

RED 6544

RED 6545

RED 6747

LAE 6616

Electives (3 hours) Electives must be chosen in consultation with the advisor.

Thesis: Thesis option is available.

Selective retention policies require students to maintain a "B" average, with no more than three hours of "C" work in the major area courses (all Reading Education [RED] 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".

Plans II and III are also available for non-certified students. The Plan II students must first obtain certification in a teaching area (e.g., English). Reading certification is an "add on" after initial certification. Plan III students do not earn certification; this option is usually open only to college teachers.

M.Ed. in Curriculum and Instruction with an Emphasis in Early Childhood Education (CNK)

Consult department for additional information.

Ed.S. in Curriculum and Instruction with an Emphasis in Elementary Education (SEE)

Prepares in-school leaders as experts in instruction and program development in a variety of educational settings. The Ed.S. program is separate from the Ph.D. program and is planned as a terminal degree. Ed.S. coursework is not necessarily applicable to the Ph.D. degree.

Additional Admission Requirements

Applicant must satisfy the following

Be eligible for certification in Elementary Education.

Have two or more years of successful work experience in programs for children.

Hold a degree in Elementary Education.

Have a GPA of 3.25 or better in post-baccalaureate work.

Submit a statement of professional history and goals to the program coordinator.

Note: Applicants from foreign countries will be appraised individually.

Program of Study (36 hours)

Elementary Education Specialization and related courses (24 hours)*

Electives (3 hours)*

Project (9 hours)

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

**Ed.S. in Curriculum and Instruction with an Emphasis in Reading/
Language Arts Education (SRD)**

Prepares educational leaders with expertise in R/LA processes for designing, implementing, and evaluating R/LA instructional materials and teaching methods. 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.

Additional Admission Requirements

Applicants must satisfy the following

Have at least one year of successful experience in a professional school role.

Hold a master's degree in education with a minimum of 16 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 meet prerequisites.

Have post-baccalaureate work with a GPA of 3.25 or better.

Have certification in at least one related area of education.

Submit a statement of professional history and goals to the program coordinator.

Note: Applicants from foreign countries will be appraised individually.

Program of Study (36 hours)

Specialization in R/LA (15 hours)*

Electives (12 hours)*

Project (9 hours; See page 105)

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

**Ed.D. in Educational Program Development with an Emphasis in
Elementary Education (EEE)**

Provides educators with an opportunity to study a variety of academic areas. The focus is on the improvement of educational practice.

Additional Admission Requirements

Applicants must satisfy the following

Hold a master's degree in Elementary Education from an accredited university or college with a GPA of 3.5 or better.

Have two or more years of successful work experience in programs for children.

Submit a statement of professional history and goals to the program coordinator.

Note: Applicants from foreign countries will be appraised individually.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree.

Specialization

Elementary Education Specialization (24 hours)

Curriculum and Instruction (6 hours)

Dissertation (30 hours, see page 106)

Statistics/Measurement/Research Design (11-12 hours)

Foundations (11-12 hours)

Ph.D. in Curriculum and Instruction with an Emphasis in Early Childhood Education (DNK)

This program prepares 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 program is designed to provide expertise in research into learning processes, designing and evaluating instructional materials and teaching techniques, university and college teaching, and the teaching of learners with disabilities.

Additional Admission Requirements

Applicants must satisfy the following

- Have at least two years of successful experience in a professional role in an early childhood setting.
- Hold a master's degree in early childhood education or a related field or expect that additional graduate study may be added to the program to meet prerequisites.
- Have a GPA of 3.5 or better in post baccalaureate coursework.
- Submit a statement of professional history and goals to the program coordinator.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree.

Specialization

- Early Childhood Specialization (18 hours minimum)
- Curriculum and Instruction (3 hours)
- Dissertation (30 hours minimum, see page 106.)
- Cognate Area** (12 hours minimum)
 - Statistics/Measurement/Research Design (11-12 hours, incl. Tool requirement)
 - Foundations (8 hours minimum)
 - Language/Computer Applications (non-credit)

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

See Ph.D. in Early Childhood for program purpose.

Additional Admission Requirements

Applicants must satisfy the following

- Be eligible for certification in at least one related area in elementary education.
- Have a GPA of 3.5 or better in post baccalaureate coursework.
- Hold a degree in Elementary Education.
- Have at least two years of successful experience in a professional role with children.
- Hold a master's degree in education with a minimum of 10 graduate hours in elementary education; if this requirement is not met, admission may be granted with the understanding that the applicant's program will be lengthened to meet prerequisites.
- Submit a statement of professional history and goals to program coordinator.

Note: Applicants from foreign countries will be appraised individually.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree. Same structure as Ph.D. in Early Childhood Education; specialization is in Elementary Education.

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

See Ph.D. in Early Childhood Education for program purpose.

Additional Admission Requirements

Applicants must satisfy the following

- Have at least one year of successful experience in a professional school role.

Hold 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 meet prerequisites.

Have a GPA of 3.5 or better in post-baccalaureate coursework.

Hold certification in at least one related area in education.

Submit a statement of professional history and goals to the program coordinator.

Note: Applicants from foreign countries will be appraised individually.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree. Same structure as Ph.D. in Early Childhood Education; specialization is in Reading/Language Arts.

Department of Educational Leadership

This Department provides programs that are designed to improve performance in school leadership positions. It offers degree programs at the master's, educational specialist, and doctoral levels: A Master of Education in Educational Leadership and Master of Arts in Junior College Teaching, the Educational Specialist degree in Educational Leadership and doctoral degrees in Educational Leadership and Higher Education.

M.Ed. in Educational Leadership (CAS)

This degree is designed to prepare administrators and supervisors by providing them with organizational, management, and instructional leadership skills. Students may specialize in one of four program tracks: Early childhood, middle/jr. high school, high school, or special education. Successful completion of the program leads to Florida certification in Educational Leadership.

Additional Admission Requirements

Applicants must satisfy the following:

For those seeking K-12 Educational Leadership Certification: Have certification in a teaching field and at least 2 years of successful teaching experience.

For those NOT seeking Educational Leadership Certification: Have two or more years of relevant work experience.

Program of Study

Program requires 39 hrs. minimum.. Course requirements vary based on student interest and experience. Typically, the student's program is as follows:

Specialization

Required Courses (24 hours)

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

Specialization Courses (6 hours)

EDE 6205 and EDG 6693	(Early Childhood Track)
EDM 6235 and EDG 6694	(Middle/Junior High School Track)
ESE6215 and EDG 6695	(High School Track)
EEX 6511 and EEX 6025	(Special Education Track)

Electives (9 hours) Six elective hours in Educational Leadership and 3 elective hours in Foundations. Students already holding a master's degree and meeting all admission requirements may have the 9 hours of electives waived.

Ed.S. in Educational Leadership (SAS)

Prepares individuals for educational leadership positions.

Additional Admission Requirements

Certification in Educational Leadership and approval by the Educational Leadership faculty. Applicants should contact the Educational Leadership Department and complete a preliminary application prior to making application to the Graduate School.

Program of Study (38 hours minimum)

Specialization

Educational Administration/Supervision/Curriculum (26 hours) Required
Courses include EDF 6407, EDF 7408, and EME 6930 (or other computer applications course)

Electives (3 hours)

Project (9 hours, see page 105).

Ed.D. in Educational Leadership (EAS)

Prepares individuals for educational leadership positions.

Program Admission Requirements

Applicants must have

Certification in Educational Leadership.

Approval by the Educational Leadership faculty.

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

Program of Study

The program requires a minimum of 82 hours beyond the master's degree.

Specialization

Specialization in Educational Administration/Supervision: (24 hours)
includes EME 6930 (or other computer applications course)

Curriculum and Instruction at 7000 level (6 hours)

Dissertation (30 hours)

Statistics/Measurement/Research Design (11-12 hours)

Foundations (11-12 hours): Includes both Social and Psychological Foundations

Ed.S. in Curriculum and Instruction with an Emphasis in Higher Education (SHI)

Prepares individuals for educational leadership positions in higher education.

Additional Admission Requirements

Applicants must have approval by the Educational Leadership faculty. Applicants should contact the Educational Leadership Department and complete a preliminary application prior to making application to the Graduate School.

Program of Study (38 hours minimum)

Specialization (29 hours) Required courses include:

EDF 6407 EDF 7408 EME 6930 (or other computer applications courses)

Project (9 hours)

Ph.D. in Curriculum and Instruction with an Emphasis in Higher Education (DHI)

Prepares individuals for college teaching and educational leadership positions in higher education.

Additional Admission Requirements:

Applicants must have approval by the Educational Leadership faculty. Applicants should contact the Educational Leadership Department and complete a preliminary application prior to making application to the Graduate School.

Program of Study

The program requires a minimum of 83 hours beyond the master's degree.

Specialization

Major Area of emphasis (21 hours minimum)

Electives (15) Students may specialize in college teaching or some other specialization field in higher education.

Curriculum and Instruction (6)

EDH 7225 and one other 7000 level C & I course

Dissertation (30 hours minimum)

Cognate Area — Higher Education Administration (12 hours)

Statistics/Measurement/Research Design (12 hours, incl. Tool requirement)

Foundations (8-9 hours minimum) — Social and Psychological Foundations

Language/Computer Applications (non-credit)

M.A. in Junior College Teaching--Plan III

Prepares students for teaching at the Junior College Level

Areas of specialization and Program Codes

Biology (BIO 90)

English (ENG 90)

French (FRE 90)

Mathematics (MTH 90)

Sociology (SOC 90)

Business (BUS 90)*

Engineering (EGP 90)**

Geology (GLY 90)

Physics (PHY 90)

Spanish (SPA 90)

Chemistry (CHM 90)

Economics (ECN 90)

History (HTY 90)

Poli. Science (POL 90)

Speech Comm. (SPE 90)

*Requires minimum score of 475 on GMAT.

**Requires Bachelor's Degree in Engineering.

Additional Admission Requirements

Because of the unique character of the Junior College program, which integrally involves two colleges of the University, admission and advisory regulations go beyond the general university and college requirements.

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 Provost and to the Registrar.

Program of Study

This program requires 37 hours minimum, including an internship. This is an individually planned program developed in consultation with an advisor.

Specialization A minimum of 18 hours of graduate work in a field of specialization.

The sequence to be completed will be designed in consultation with a major field advisor. This program is based on the assumption that the student has an undergraduate background in a specialization area that is roughly equivalent to the pattern of the appropriate USF major. Students admitted without such preparation may be required to take additional coursework as prerequisites.

Process Core (Approximately 13-16 hours) Consists of graduate work in professional education; additional hours may be required if the student's background is weak in relevant areas.

Internship (6 hours) 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 advisor. The internship follows the completion of professional education coursework.

Department of Educational Measurement and Research

This department provides support services to graduate programs and offers courses and consultation in the following areas: Measurement; Statistics; Program Evaluation; Research Design; Computer Applications; Systems Approaches to Planning, Evaluation, and Development. Three graduate degrees are offered: Master of Education, Educational Specialist, and Doctor of Philosophy.

M.Ed. in Curriculum and Instruction with an Emphasis in Measurement and Evaluation (CME)

This degree program is designed to prepare mid-level testing and evaluation personnel for employment in school districts, state government agencies and commercial test development, and program research and evaluation enterprises. The program prepares personnel with specialized skills in test construction, program evaluation, research design, and data analysis.

Program of Study (42 hours)

Concentration (9 hours)

EDG 6627 (3) EDF 6492 (3) EDF 6288 (3)

Specialization (19 hours)

EDF 6407 (4) EDF 7408 (4) EDF 7488 (2) EME 6930 (3)

EDF 6446 (3) EME Computer Elective (3)

Ed.S. in Curriculum and Instruction with an Emphasis in Measurement and Evaluation (SME)

This program prepares specialists for work in school districts, government agencies, and commercial test development and program research and evaluation enterprises.

Program of Study

This program requires 36 hours beyond the Master's Degree. The program is individually planned with an advisor to include coursework in systematic planning, test development, program evaluation, research design, and statistical analysis. (Contact Department Chair)

Ph.D. in Curriculum and Instruction with an Emphasis in Measurement and Evaluation (DME)

Focus in this degree is on developing systematic inquiry skills essential to the objective study, research, and evaluation of educational processes and products. The intent of the program is to develop instructional and research personnel who can strengthen the training, research and development capabilities of agencies and institutions concerned with education. Emphasis is placed on those aspects of research and evaluation design, measurement, statistical analysis, and systems approaches that are relevant to both decision-oriented and conclusion-oriented research. In addition to consideration of traditional experimental designs, attention is given to 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.

Program of Study

Specialization

Major Emphasis Area (28 hours minimum)

EDF 7940 (8) EDF 7488 (2) EDF 7493 (4) EDF 7485 (3)

EDF 7410 (4) EDF 7655 (4) EDG 7910 (3)

Curriculum and Instruction (3 hours): EDG 7667 (3) or EDG 7692 (3)

Dissertation (30 hours minimum)

Cognate Area (12 hours minimum) Elective courses

Statistics/Measurement/Research Design (19 hours, incl. Tool requirement)

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

EDF 7438 (4)

Foundations (8-9 hours minimum) To be selected from offerings in Psychological Foundations and Social Foundations.

Music Education Program

A Master of Arts in Music Education and the Ph.D. in Curriculum and Instruction with an emphasis in Music Education are offered collaboratively with the College of Fine Arts. See College of Fine Arts for program descriptions.

School of Physical Education, Wellness, and Sport Studies

The School offers a master's degree program for individuals who are eligible for certification in Physical Education in elementary, middle, and secondary schools.

M.A. in Physical Education (APH)--Plan I

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 students with disabilities.

Additional Admission Requirements

Applicants must have

- An undergraduate degree in Physical Education
- Recommendation from the Departmental Admissions Committee.

Program of Study (30 hours minimum)

Process Core (3-11 hours)

Current Trends in Physical Education (3 hours)

Specialization PET 6535, Professional Assessment, is required, and it is recommended that students enroll in this course during their first semester of study. Typically students will enroll in courses from the following:

PET 6535C	PET 6205	PET 6645	PET 6695C
PET 6425	EDF 6432	PET 6496	PET 6346
PET 6910	PET 6906		

Comprehensive Exam A Comprehensive final oral examination is required during the semester in which the student completes 30 hours of coursework.

Department of Psychological and Social Foundations of Education

This department offers programs in the areas of Counselor Education and School Psychology. It also provides service courses for all degree programs in the College. These courses, as well as some courses offered in other foundational departments, are typically referred to as the "Process Core."

M.A. in Counselor Education (AGC)

The Master of Arts (M.A.) degree in Counselor Education prepares students to become professional counselors, supervisors, educators and/or researchers in a variety of settings. Three program plans are available in School Counseling and Community Counseling.

Additional Admission Requirements

In addition to the above requirements, applicants must satisfy the following

- Submit a personal statement of professional goals to program coordinator.
- Submit three letters of recommendation to the program coordinator.
- Qualified applicants will be required to interview with Counselor Education faculty.
- Out of state applicants may arrange for a telephone interview.

Applicants are admitted for the Semester I (Fall) and Semester II (Spring) terms. All admission requirements must be completed by January 15 for Semester I and by September 15 for Semester II.

There is no full-time residency requirement. A student who is employed on a full-time basis is limited to 9 hours coursework per semester.

Plan I--School Counseling

Two tracks are available: an elementary school emphasis and a secondary and adult emphasis.

Program of Study (50 hours minimum)

Process Core (11 hours)

EDF 6354 EDF 6481
 EDF 5136 or EDF 6120 or EDF 6213 or EDF 6215

Current Trends in Counseling Profession (4 hours) MHS 6006

Specialization (35 hours) All students are required to take the following:

MHS 6200 MHS 6340 MHS 6420 MHS 6600
 MHS 6780 SDS 6820

Elementary School Emphasis: Students must also take

SDS 6411 SDS 6501 SDS 6801

Secondary and Adult Emphasis: Students must also take

MHS 6400 MHS 6509 MHS 6800

Plan II--School Counseling

The Plan II program is designed for students with no prior Florida teaching certification, but who wish to obtain certification as part of their program. Requirements for the Plan II program (60 semester hours) are the same as those for the Plan I program, with the following additional courses:

EDF 6432 EDF 6517 or EDF 6544 or EDF 6606 EDG 4620

Plan III--Community Counseling

This Plan III program is for students who do not hold current Florida teacher certification and who prefer to work in community-based counseling positions rather than elementary or secondary schools. Two tracks are available: Counseling Children and Counseling Adolescents and Adults.

Special Program Admissions Requirements (Same as Plan I program)

General Program Requirements (Same as Plan I program)

Program of Study (51 hours minimum)

Process Core (11 hours)

EDF 6481 EDF 6354
 EDF 5136 or EDF 6120 or EDF 6213 or EDF 6215

Current Trends in Counseling Profession (4 hours) MHS 6006

Specialization (36 hours) All students are required to take the following

MHS 6070 MHS 6200 MHS 6340
 MHS 6471 MHS 6780 MHS 6885

Counseling Children track: Students must also take

SDS 6411 SDS 6501 SDS 6801

Counseling Adolescents and Adults track: Students must also take

MHS 6400 MHS 6509 MHS 6800

Ed.S. in Curriculum and Instruction with an Emphasis in Counselor Education (SGC)

Program not currently being offered.

Ph.D. in Curriculum and Instruction with an Emphasis in Counselor Education (DGC)

Program not currently being offered.

School Psychology Programs

The School Psychology Program offers two degrees that qualify students for the professional practice of school psychology. The Educational Specialist (Ed.S.) degree consists of approximately 92 graduate semester hours and includes a full-year, 1,500 clock hour internship

and a thesis or Research Project. The Doctor of Philosophy (Ph.D.) degree consists of approximately 70 semester hours beyond the Ed.S. degree and includes advanced leadership coursework and practica experiences, specialization and area of emphasis courses in school psychology, 2,000 clock hour internship, and the dissertation. A Master of Arts (M.A.) degree is earned by most students during the first year of their Ed.S. program. However, the M.A. is not considered a terminal degree and is not sufficient for state certification in school psychology.

The programs in School Psychology at the University of South Florida are offered through the College of Education's Department of Psychological and Social Foundations in cooperation with the College of Arts and Sciences' Department of Psychology. The programs have been designed specifically for training in school psychology, and they have been developed to meet all relevant national accreditation standards (most notably, the National Council for the Accreditation of Teacher Education—NCATE, and the American Psychological Association—APA). The Ed.S. and Ph.D. programs are fully approved by the National Association of School Psychologists and the Florida Department of Education. Students who complete the School Psychology Training Program at USF automatically meet the academic and field training requirements for certification as a Nationally Certified School Psychologist (N.C.S.P.).

The programs in School Psychology are committed to training professionals who have expertise in the depth and diversity of both psychology and education. This training is accomplished within a scientist-practitioner model which emphasizes comprehensive school psychological services using a social and cognitive behavioral learning theory orientation that recognizes the impact of children's individual differences.

Ed.S. in School Psychology (SSP)

The Ed.S. program must satisfy College of Education, University, NASP/NCATE, and State Department of Education criteria, the latter in order for the student to be certified as a school psychologist in the State of Florida.

Residency: Currently, the master's/specialist program can be completed in three calendar years. Since the curriculum is carefully sequenced, full-time study, as defined by the Program Advisor or Director, is required of students without prior graduate work. It is assumed that students have time for an assistantship or part-time job up to 20 hours per week. However, it is expected that students who need financial assistance will accept program assistantships, as available, before any other type of aid. When outside employment is a possibility, such employment must be approved by the School Psychology Faculty. In fact, the Program Director must be notified in writing of all gainful employment engaged in by students throughout their studies when that employment exceeds six hours per week.

Program of Study

The Ed.S. program consists of a minimum of 36 semester hours beyond the master's degree, or 92 hours beyond the Bachelor's degree across a number of theoretical, professional and support areas. These credit hours are distributed as follows:

- Specialization Coursework (25-27 Credit Hours)
- Psychological Foundations (22-24 Credit Hours)
- Educational Foundations (8 Credit Hours)
- Assessment (12 Credit Hours)
- Interventions (12 Credit Hours)
- Field Practicum (6 Credit Hours)
- Research/Statistics (8 Credit Hours)
- Internship (12 Credit Hours)
- Thesis (Project) - - SPS 6971 (9 Credit Hours)

The Ph.D. in School Psychology (DSP)

The Ph.D. program consists of a minimum of 120 credit hours beyond the Master's degree. Students in the Ed.S. program in School Psychology will be allowed to use up to 12 semester hours of USF credit earned during the first year of their Ed.S. program toward the Ph.D. They also may incorporate coursework from the second and third years of their Ed.S. program (assuming it is post-Master's) into the Ph.D. program of studies. Other students who have taken graduate level courses as special students at USF will be allowed to transfer up to 12 semester hours as approved by the Program Faculty. Finally, students from other institutions will be allowed to transfer in 8 graduate semester hours (or three courses) again as approved by the Program Faculty.

In addition to admitting students at the Post-Baccalaureate Level, the USF School Psychology program admits Ph.D. students who have already earned an Ed.S. or the equivalent and are certified as school psychologists and/or who are looking for advanced doctoral study in the field. These advanced students take advanced leadership, specialization, an area of emphasis coursework within the broader school psychology curriculum, and additional practica experiences, all allowing for more in-depth study of content and issues in our field.

Full-time study is required of most Ph.D. students at least until they complete all coursework and Qualifying Exams and have only the Dissertation to complete. Minimally, this will involve three years of full-time study after the M.A. degree. Full-time study involves a minimum of 9 semester hours of coursework per semester. Residency involves consecutive academic years of full-time study; students are allowed assistantship work or a part-time job up to 20 hours per week during residency. Students working in psychology-related positions outside of the University must have these positions approved in advance to ensure practice within all appropriate ethical guidelines. The Program Director must be notified in writing of all gainful employment engaged in by students throughout their studies when that employment exceeds six hours per week. A part-time Ph.D. option is available for selected students; more information on this option is available from the Program Director.

Admission Philosophy

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 both to the Program and the field of School Psychology.

Within the admissions process, a culturally diverse student body is actively recruited, and applicants of academic and professional promise are not systematically excluded on the basis of race, ethnic origin, gender, age, religion, lifestyle, sexual orientation, or physical handicap. The admissions process is highly selective, but flexible; all pertinent data submitted for consideration are evaluated as a collective whole. That is, no one piece of information is weighted substantially over another so long as it meets the minimal requirements of the University and College. The evaluation process, however, does involve both academic and interpersonal considerations. The profession of School Psychology requires that the individuals possess positive personal characteristics as well as academic and technical competencies, and the admission process attempts to evaluate both these areas.

Specifically, admission to the program is based on past academic work; GRE verbal and quantitative scores; pertinent work, volunteer, and extracurricular experience; letters of recommendation; and a statement of professional goals that may include a current resume or vita. Students may apply, after conferral or anticipated conferral of their Bachelor's degree, at either the doctoral or Ed.S. level depending on their professional aspirations. **Applicants are encouraged to complete applications by February 1st.** Most acceptances occur during the early spring. 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 USF Office of Graduate Admissions or by calling/contacting the School Psychology Program (Department of Psychological and Social Foundations, FAO 268; (813) 974-3246). Students must submit an application for admission and all test scores directly to the University's Office of Graduate Admissions. The following Additional Admissions information should be send directly to the School Psychology Program.

Additional Admission Requirements

In addition to the general university admission requirements, students must also submit the following to the School Psychology Program (c/o Dr. Kelly Powell-Smith):

- Three letters of recommendation sent directly to the program;
- A writing sample such as a major research paper, a write-up of a psychological experiment, or a major literature review;
- A statement of professional goals and a current vita or resume which discusses past activities or experiences relevant to the application.

Upon receipt of application materials, prospective students are sent acknowledgments so they can keep abreast of the application's status and so they know when it is complete. Once complete, the application file is reviewed by faculty members who individually recommend whether or not the candidate should be invited in for a formal interview. During the interview, the applicant will have the opportunity to pose questions to faculty and current students in order to further familiarize himself/herself with the program.

After the interview, a decision on the student's candidacy is made based on his/her record/application and his/her:

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 diverse children, families, teachers, and systems
4. interpersonal skills
5. communication skills, both oral and written.

Note: If geographical 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 candidate.

Financial Aid

Normally, all students receive funding through assistantships or paid internships and tuition waivers for the duration of their training. Separate forms, where necessary, are forwarded with each acceptance letter. Fellowships for qualifying students are also available; they have application deadline dates as early as February 1. Applicants for fellowships are encouraged to obtain the appropriate forms from the Office of Financial Aid, SVC 1102 or the College of Education, EDU 123. Internships, though not formally considered financial aid, are normally paid; advanced internships may be paid depending on the site.

Program of Study

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

Academic/Theoretical Bases

- Developmental Psychology (4 hours)
EDF 6938 or EDF 6120 or DEP 6058*
- Learning and Cognitive Psychology (8 hours)
EDF 6215 and EDF 6217
- Personality and Abnormal Psychology (4 hours)
SPS 6201
- Biological/Physiological Psychology (4 hours)
SPS 6201 or EDF 6213 or PSB 6056*

Social Psychology (2-4 hours)

EDF 6938 or SOP 6059*

Statistics, Measurement, and Professional Research (8 hours)

EDF 6407 and EDF 7410

Professional School Psychology (37 hours)

SPS 6197 SPS 6198 SPS 6943 SPS 6944

SPS 6936 SPS 6700 SPS 6701 SPS 6702

SPS 6940 SPS 6941 EDF 6166 SPS 6196

Social/Multicultural/Organizational Foundations of Education (4 hours)

EDF 6883

Thesis (9 hours) SPS 6971

Internship (12 hours)

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

* Offered in the Department of Psychology

Ph.D. Degree: With our specialist curriculum forming a foundation, each doctoral student's program additionally will include a full-year advanced professional seminar (SPS 7936), advanced coursework in statistical analysis (EDF 7408, EDF 7484); courses in an area of emphasis (e.g., SPS 7199, SPS 7701) chosen by the student; advanced supervision (SPS 7090), consultation (SPS 7205), and behavioral intervention (SPS 7700) courses; an advanced psychological foundations course (e.g., EDF 7145); an advanced practicum and 2,000 clock hour advanced 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 prepares educators for middle and secondary schools through 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 (I, II, III) are available, depending upon the candidate's background and future goals.

Plan of Study

An individually planned program of a minimum of 33 hours for Plans I and III, and 43 hours for Plan II, selected in consultation with a departmental advisor. Prerequisite courses at the undergraduate level may be required for the Plan II program.

Specialization In Plans I, II, and III a minimum of 18 hours in the area of specialization, based on the prior background of the student and the current certification requirements.

Demonstration Component Comprehensive examinations, thesis, or project required. (Consult with program advisor for options within the area of specialization).

Master of Education (M.Ed.)

The M.Ed. degree in Curriculum and Instruction is a flexible program intended to improve the skills of the classroom teacher. The M.Ed. is offered with an emphasis in English Education, Foreign Language Education, Instructional Technology, Mathematics Education, Science Education, Social Science Education, Theatre Education, and Middle Grades Education. The program will be planned with the student's advisory committee.

Program of Study

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

Specialization 18 hours in the area of emphasis, to include courses in content and/or the teaching of this content

Curriculum and Instruction (3 hours) EDG 6627

Process Core (12 hours)

EDF 6432

EDF 6481

EDF 6211 or EDF 6215

EDF 6517 or EDF 6544 or EDF 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 in Curriculum and Instruction is offered with an emphasis in Mathematics Education, or Science Education to prepare specialists for classroom instruction or leadership/supervisory roles.

Additional Admission Requirements.

Applicants must also have:

A master's degree with emphasis in Mathematics Education, or Science Education (or approved related areas) with a 3.25 GPA or better, and

Favorable recommendation from the Departmental Admissions Committee.

Program of Study

A minimum of 36 hours is required. 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.

Major Area (15 hours) Courses in Mathematics Education, or Science Education, and/or courses in Natural Sciences or Arts and Letters.

Cognate Area (12 hours) Courses in supervision, administration, educational technology, curriculum development, measurement, evaluation, educational research, and/or other approved related areas.

Project (9 hours) Completed under the direction of a faculty committee. There will be an oral defense of the project.

Comprehensive Examination Written and/or oral examination.

Doctor of Philosophy (Ph.D.)

The Ph.D. in Curriculum and Instruction, with an emphasis in Mathematics Education, Science Education, English Education, Instructional Technology, or Secondary Education, is granted on evidence of distinctive academic achievement and by the demonstration of ability to do original, independent investigation culminating in a dissertation.

Additional Admission Requirements

Applicants must also satisfy the following:

Have two years of teaching experience

Be approved by the department chairperson and program committee

Program of Study

A minimum of 83 hours beyond the Master's degree is required. This program is highly individualized. Candidates' programs are planned (with approval by a faculty committee) based upon previous experience and future goals.

Specialization (18 hours minimum)

Curriculum and Instruction (3 hours)

Dissertation (30 hours minimum)

Cognate Area (12 hours — Supporting courses outside specialization area)

Statistics/Measurement/Research Design (12 hours, incl. Tool requirement)

Foundations (8 hours minimum)
 Language/Computer Applications (non-credit)

M.A. in Art Education (AAR)

The M.A. degree in Art Education is offered in three different plans (I, II, III) each with a choice of concentration in one and the following areas:

Certification, Art K-12	Arts Administration, Supervision
Research and Curriculum Development	Studio
Museum Education	Expressive Arts
Community Arts	Health Arts
Computer-Media Technology for Visual Learning	

Program of Study--Plan I

This program requires 37 hours minimum, selected in consultation with an advisor.

Process Core (3 hours)
 Current Trends in Art Education (3 hours) ARE 6844
 Specialization (22 hours)
 Art Education (10) Art Studio (8) Art History (4)
 Electives (9 hours)
 Integrative project

Program of Study--Plan II

This program requires 56 hours minimum, selected in consultation with an advisor.

Process Core (15 hours)
 Current Trends in Art Education (3 hours) ARE 6844
 Specialization (28 hours)
 Art Education (16) Art Studio (8) Art History (4)
 Electives 1-4 hours as needed
 Internship (6 hours) EDG 6947
 Integrative Project

Program of Study--Plan III

This program requires 43 hours minimum, selected in consultation with an advisor.

Process Core (12 hours)
 Current Trends in Art Education (3 hours) ARE 6844
 Specialization (22 hours)
 Art Education (10) Art Studio (8) Art History (4)
 Electives (6 hours)
 Integrative Project

English Education

M.A. in English Education (AEN) — Plan I

Additional Admission Requirements

Applicants must have:

An undergraduate degree approved by program advisor.
 A substantial number of undergraduate hours in English.

Program of Study

This program requires 33 hours minimum. See M.A. Program section for general requirements and program structure:

Comprehensive Examinations Required in both English and English Education.
 Plan II and III programs are available for non-certified teachers.

M.Ed. in Curriculum and Instruction with an emphasis in English Education (CEN)
SEE M.Ed. Program section for general requirements and program structure. (Contact Department for more information.)

Ph.D. in Curriculum and Instruction with Emphasis in English Education (DCE)
SEE Ph.D. Program section for general requirements and program structure. (Contact department for more information.)

Foreign Language Education (French, German, Spanish)

M.A. in Foreign Language Education with Specialization in French (AFF), German (AFG), or Spanish (AFS)--Plan I

Prepares educators for teaching foreign language in a K-12 environment.

Additional Admission Requirements

Applicants must also have:

An undergraduate degree approved by program advisor.

Fluency in both English and a foreign language.

Program of Study

This program requires 33 hours minimum. See Master of Arts Program section for general requirements and structure.

Comprehensive Examination: Required in both the Foreign Language and Foreign Language Education.

Plan II and III programs are also available for non-certified students.

M.Ed. in Curriculum and Instruction with an emphasis in Foreign Language Education (CFE)

See M.Ed. Program section for general requirements and program structure. (Contact Department for more information.)

Instructional Technology

M.Ed. in Curriculum and Instruction with an Emphasis in Instructional Technology (CCO)

The graduate program in Instructional Technology 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. In addition, instructional technology cognates are available for other graduate level programs.

Additional Admission Requirements

Applicants must also have:

Two years of relevant experience as judged by the program faculty.

Approval by the department.

Program of Study (36 hours)

Specialization (21 hours in instructional technology), including

EME 6930 EDF 6284 EME 6936 CGS 6210.

Curriculum and Instruction (3 hours) EDG 6627

Foundations of Education (12 hours)

EDF 6432 EDF 6481 EDF 6215

EDF 6517 or EDF 6544 or EDF 6606 or EDF 6736.

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

Ph.D. in Curriculum and Instruction with an Emphasis in Instructional Technology Education (DIT)

This program prepares professional leaders in the field who will create the knowledge required to successfully integrate technology in education and who will function as change agents within the field. The program is designed to prepare professional educators who possess special expertise in technology and who are able to apply appropriate technological means to teaching and learning processes and to the design of instructional programs in a wide variety of settings.

Additional Admission Requirements

Applicants must also satisfy the following:

- Hold a Master's Degree from an accredited institution of higher learning.
- Have expertise in Instructional Technology equivalent to that of a graduate of a Master's Degree program in the field.
- Submit 3 letters of recommendation.
- Obtain favorable recommendations from program faculty.

Program of Study

This program requires a minimum of 82 hours min. beyond the master's degree.

Specialization

- Instructional Technology Specialization (18 hours minimum)
- Curriculum and Instruction (3 hours)
- Dissertation (30 hours minimum, see page 106).

Cognate Area (12 hours minimum)

Statistics/Measurement/Research Design (11-12 hours, incl. Tool Requirement)

Foundations (8-9 hours minimum)

Language/Computer Applications (non-credit)

Mathematics Education

M.A. in Mathematics Education (AMA) — Plan I

This degree is designed mainly for high school teachers. (An M.A. degree designed to improve the skills of the classroom teacher in teaching mathematics to elementary school students is also available. Contact the Department of Childhood/Language Arts/Reading Education for information.)

Additional Admission Requirements

Applicants must also have

- A bachelor's degree in Math Education or a degree with a background in mathematics.
- Recommendation from the Departmental Admissions Committee

Program of Study (See Master of Arts Plan Requirements)

Specialization (18 hours minimum). To be taken in mathematics and approved by the student's advisor.

Process Core (9 hours) EDF 6432, EDF 6481, and EDF 6211 or 6215

Current Trends in Secondary School Mathematics (3 hours) MAE 6136

Electives 3 hours of coursework in mathematics education

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

Plan II and III programs are available for non-certified teachers.

M.Ed. in Curriculum and Instruction with emphasis in Mathematics Education (CMA)

See M.Ed. program section for general requirements. Contact department for additional information.

Ed.S. in Curriculum and Instruction with Emphasis in Mathematics Education (SMA)

See Ed.S. Program section. Contact Department for more information.

Ph.D. in Curriculum and Instruction with Emphasis in Mathematics Education (DMA)

See Ph.D. Program section. Contact Department for more information.

Middle School Education

M.Ed. in Curriculum and Instruction with an Emphasis in Middle School Education (CMG)

This program is designed to enhance the ability of professional educators to work effectively with young adolescents in a variety of settings. This program leads to a middle grades endorsement to a Florida teaching certificate.

Program of Study (33 hours minimum)

Process Core (12 hours—see M.Ed. program section for Secondary Education Department). These Foundations of Education courses are designed to enable the student to understand the nature and needs of adolescents.

Curriculum and Instruction (3 hours)

Specialization (9-12 hours) These courses are designed to focus on the unique needs and characteristics of the early adolescent, on the components of an effective middle school program, on alternative delivery systems for teaching in the middle grades, on alternative assessment options for evaluating students in the middle grades and on current trends/issues related to middle level education.

Electives (6-9 hours)

Science Education

M.A. in Science Education with Emphasis in Biology (ASB), Chemistry (ASC), and Physics (ASY) — Plan I

This degree is designed mainly for high school teachers. (An M.A. degree designed to improve the skills of the classroom teacher in teaching science to elementary school students is also available. Contact the Department of Childhood/Language Arts/Reading Education for information.)

Additional Admission Requirements

Applicants must have a strong background in science, indicated by a major or its equivalent in Biology, Chemistry, or Physics.

Program of Study

This program requires 33 hours minimum. SEE See Master of Arts section for general program requirements and program structure. Plan II and III programs are available.

M.Ed. in Curriculum and Instruction with Emphasis in Biology (CBI), Chemistry (CCH), Physics (CPY)

See M. Ed. program section for general program requirements and program structure. (Contact Department for more information).

Ed.S. in Curriculum and Instruction with Emphasis in Science Education (SSC)

See Ed.S. Degree program section.(Contact Department for more information).

Ph.D. in Curriculum and Instruction with Emphasis in Science Education (DSC)

See Ph.D. Degree Programs section. (Contact Department for more information).

Ph.D. in Curriculum and Instruction with Emphasis in Secondary Education (DSD)
See Ph.D. Programs section . (Contact Department for more information).

Social Science Education

M.A. in Social Science Education (ASO) — Plan I

Program of Study

This program requires 33 hours minimum, individually planned with an advisor. See Master of Arts Plan Requirements section for general program requirements and program structure.

Comprehensive Exam Required in both Plans I and II.
Plan II M.A. (50 hours minimum) is also available for non-certified teachers.

M.Ed. in Curriculum and Instruction with Emphasis in Social Science Education (CSO)

See M.Ed. Program section. (Contact Department for more information).

Theatre Education

M.Ed. in Curriculum and Instruction with an Emphasis in Theatre Education (CTE)

This program is designed for certified teachers who have not completed a degree in theatre (particularly those certified in Speech or English). The program provides the teacher with a minimum of knowledge and experience considered necessary for a theatre teacher.

Program of Study (33 hours minimum)

Foundations of Education and Curriculum and Instruction (15 hours)

These may be taken at any USF branch campus during any semester (up to 6 hours may be transferred).

Specialization (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.

THE 5909*	THE 5931*	EDG 6329	THE 6736
THE 6730	THE 6930		

*Descriptions are provided under the College of Fine Arts.

Department of Special Education

The programs of study in the Department of Special Education prepare special education leaders for work in public and private schools and in state, federal, or community settings at the master's and doctoral levels. Specific areas of education and training include behavior disorders, gifted, mental retardation, specific learning disabilities, and varying exceptionalities. The master's programs emphasize consultative, supervisory, and multidisciplinary skills intended for students who wish to assume innovative leadership roles in public or private school settings. The doctoral program prepares students for research, teacher education, 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.

The College of Education also offers an Educational Specialist (Ed.S.) degree in Curriculum and Instruction with an emphasis in Special Education. Admission to this program has been limited in recent years. Persons interested in this degree should contact the Chair of the Department.

Master of Arts in Special Education with Emphases in Behavior Disorders (ABD), Specific Learning Disabilities (ALD), Mental Retardation (AMR), Varying Exceptionalities (AVE) — Plan I

The M.A. program in special education is a 36-hour program, designed for students holding a valid Florida teaching certificate in special education. A minimum core of 24 hours is taken in special education with field work and coursework required in certification areas.

Scheduling Options Students may select one of two scheduling options:

1. Evening courses are offered during the fall and spring semesters. Daytime courses are offered during the summer. Students selecting this alternative usually take one or two courses a semester and complete their program of study within two to four years. With this option, students are required to take courses two of the three semesters each year and they must complete their program of study within 7 years of their admission date.
2. Students may enroll in the School-based Teacher Education Partnership (STEP) Program, a scheduling option that enables students to complete their degree within 14 months by attending two intensive summer school sessions plus week-end and evening courses during the intervening academic year. This option is designed for employed teachers but is open to students without teaching credentials. Students selecting this option are only admitted during the Spring semester for summer matriculation. In this option, students remain with a cohort of students for the entire program of study.

Additional Admission Requirements

Applicants are also required to submit

Evidence of successful professional/paraprofessional experience working directly with children, or a have successful interview with the Admissions Committee of the Department of Special Education.

Three letters of recommendation from persons who have seen the applicant working with children, and/or from persons who can attest to the applicant's ability to do graduate work (former professors).

An essay explaining professional goals and reasons for pursuing graduate studies.

STEP students are admitted annually and must apply by March 1.

Program of Study (36 hour minimum)

Process Core (3 hours) EDF 6481

Current Trends in Special Education (3 hours) EEX 6939

Specializations (27 hours minimum)

Special Education Program Core: 21 hours

EEX 6025* EEX 6612 EEX 6222 EEX 6245

EEX 6732 EEX 5752 EEX 6248

* Not required, if equivalent course taken in undergraduate program.

Behavior Disorder Specialization Courses: (6 hours)

EED 6215 EEX 6943

Specific Learning Disabilities Specialization Courses: (6 hours)

ELD 6015 EEX 6943

Mental Retardation Specialization Courses: (6 hours)

EMR 6052 EEX 6943

Varying Exceptionalities Specialization Courses: (12 hours)

EED 6215 ELD 6015 EMR 6052 EEX 6943

Electives (3-6 hours)

For students seeking certification in Behavior Disorders, Learning Disabilities, and Mental Retardation 3 to 6 hours of coursework relevant to the student's program of study are required and must be approved by the student's advisor.

The Dual track and Plan III options are also available for students who are not certified in special education. Dual track students are required to take prerequisite courses in education

to meet certification requirements. Departmental advisors assist students in determining the courses that will be required.

M.A. in Gifted Education (AGI) — Plan I

The Gifted Child Teacher Preparation program provides advanced training for certified teachers to work with gifted and talented children and to work with other teachers on a consultant or collaborative basis. Emphasis is placed on developing specific skills in identification of gifted students, focusing on the characteristics and needs of special populations, assessing individual student’s cognitive and affective strengths and weaknesses, modifying educational programs to develop gifted student’s potential, and consulting with gifted students, their families, and teachers. This program qualifies students for the State of Florida endorsement in Gifted Education.

Program of Study (36 hours)

Process Core (3 hours) EDF 6481

Current Trends in Special Education (3 hours) EEX 6939

Specialization (24 hours)

Special Education Program Core (6)

EEX 6025 EEX 6222

Specialization Courses (18)

EGI 5051 EGI 5325 EGI 6232

EGI 6936 EGI 6416 EGI 6943

Electives (6 hours)

A Plan III option is also available for non-certified students.

Ph.D. in Curriculum and Instruction with an Emphasis in Special Education (DSE)

This program is an individualized, personally mentored, systems research and development program in which students develop an array of skills necessary for either a university faculty position or a leadership career in special education.

Additional Admission Requirements

Applicants are required to have

A master’s degree in special education or a related field.

Grade point average of 3.5 or higher at the graduate level.

GRE Composite Score (Verbal and Quantitative) of 1100 or higher.

A two-year work experience in special education or in a closely related field.

Favorable recommendation of the Department’s Advanced Graduate Admissions Committee and the Department Chairperson.

Special 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.

Program of Study

The program requires 83 hours beyond the master’s degree.

Specialization

Special Education Specialization (18 hours minimum)

Required: EEX 7301 EEX 7341 EEX 7741

Remaining hours to be selected from:

EEX 7203 EEX 7841 EEX 7911

Curriculum and Instruction (3 hours)

Dissertation (30 hours minimum)

Cognate Area (12 hours)

Statistics/Measurement/Research Design (12 hours, incl. Tool requirement)

Foundations (8 hours minimum)

Language/Computer Applications (non-credit)

Ed.D. in Educational Program Development with Emphasis in Special Education Administration and Supervision (ESE)

The program's mission is to prepare administrators at the doctoral level to effectively lead and manage programs for special education and at-risk populations.

Additional Admission Requirements

Applicants are required to have:

Certification in special education, educational leadership, or a related field (exceptions will be considered by the Department of Special Education Graduate Admissions Committee and the Department Chairman.)

Minimum of three years successful experience as a professional working with identified exceptional students.

Favorable recommendation of the Department of Special Education's Advanced Graduate Admissions Committee and the Department Chairperson.

Special Program Requirements

Students enrolled in this non-certification program should possess certification in special education, educational leadership, or a related field. Though full-time enrollment is strongly encouraged, "flex-time" enrollment is permissible. The program is individually planned by the student and a faculty advisory committee and approved by the Department Chairperson. See Graduate Degree Programs section.

Program of Study (minimum of 83-84 hours)

Specialization (specialty studies, curriculum, and tools) (30 hours)

Required: EDA 6192 EEX 7301 EEX 7841
EME 6425

Elective: EDA 6061 EDA 6106 EDA 7222
EDA 7233 EDS 6050 EEX 6511
EEX 6526 EEX 6939 EEX 7341

Curriculum and Instruction (6 hrs.) EDG 7692 EDG 7667
Dissertation (30 hours)

Measurement/Statistics/Research Design (11-12 hours)

Required: EDF 6407 EDF 7408

Elective: EDF 7410 EDF 7437 EDF 7484
EDF 7493 EDG 7931 ANT 7760

Foundations (12 hours)

Required: EDF 7245 EDF 7655

Elective: EDF 7649 EDF 7682

Student Organizations

The College of Education Graduate Students Association (GSA) serves the needs of graduate students in all education programs. The GSA has an office in EDU 114 on the Tampa campus (813) 974-0556. All graduate students in education are automatically members, and there are no dues. The Coordinator is recruited from the ranks of doctoral graduate assistants.

The mission of the GSA is to provide linkage among graduate students and programs and to help develop the intellectual community that is so critical to gaining the full value from one's graduate study. The GSA publishes a newsletter with information about deadlines, critical dates in the Fall and Spring Semesters, and sponsors seminars and celebrations for graduates. The office in the College of Education building is also a place where graduate students can go to study or talk between classes. We look forward to your participation.

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 admitted 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 Chemical Engineering (M.Ch.E.)
- Master of Civil Engineering (M.C.E.)
- Master of Computer Engineering (M.Cp.E.)

Master of Computer Science (M.C.S.)
 Master of Electrical Engineering (M.E.E.)
 Master of Industrial Engineering (M.I.E.)
 Master of Mechanical Engineering (M.M.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 in a designated discipline, the Master of Engineering program, and the Five-Year Program leading to the simultaneous award of both the bachelor and master's degree. Each department determines the degree to be awarded, depending upon the student's background and specific program of study pursued.

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. This degree is normally awarded to a Master's graduate who holds a Bachelor's degree in the designated field and who follows a thesis program.

Master of Science in Engineering Science. This 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, and bio-medical engineering. A strong foundation in rigorous scientific and engineering principles and practice is expected. It is normally awarded for completion of a thesis program.

Master of Science in Engineering. This degree is normally awarded to a Master's graduate who has an undergraduate degree in engineering or who has a bachelors degree from a non-engineering program and has completed a prescribed series of undergraduate engineering courses. It is a thesis program.

Master of Designated Discipline. This degree is normally awarded to a Master's graduate who has an undergraduate degree in the discipline and who follows an all coursework program.

Master of Engineering. This degree is normally awarded to a Master's graduate who has an undergraduate degree in engineering or who has completed a prescribed series of undergraduate engineering courses, and completes an all coursework program.

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 hour core and 18 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 Admission 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 and those of the College. Individual departments may have additional specific and higher requirements. More complete information may be obtained from the Graduate Programs Coordinators 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 or CSAB accredited program for Computer Science is generally required for graduate work in the same designated 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 representative) attempt a trial program as a non-degree seeking student. Up to 12 hours of satisfactorily completed department specified work attempted on this basis may be accepted into a graduate program. Before attempting such a trial program, the student should obtain from the departmental advisor 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

The 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 thesis program must contain a minimum of 24 credit hours of coursework and a minimum of 6 credit hours of thesis. (If a student transfers from a thesis program to a project or all coursework program, no thesis hours may be transferred, converted or counted toward the degree.)

2. Non-thesis program requirements vary according to department but must contain a minimum of 33 credits of approved coursework.

3. 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 advisor, and approval by the Engineering Associate Dean for Academic Affairs, prior to continuing coursework for a degree.

4. 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's 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 advisors, 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 cannot 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

Additional Admission Requirements

In addition to the university's minimum admission requirements, applicants must also have the following:

1. An undergraduate degree in the respective Engineering or Computer Science 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 coursework 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 advisor 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 advisor 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 coursework 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 coursework in an engineering area of concentration is required. 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 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 coursework. 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 coursework 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 is 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. Students 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. Once admitted to candidacy students must enroll for a minimum of 2 credit hours each semester of the academic year until completion of program.

9. The defense of the dissertation will conform to the University's general rules and regulations.

10. 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 minimal 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 5 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 Chemical Engineering Department offers graduate degrees leading to M.S. and Ph.D. in Chemical Engineering and Engineering Science. 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, transport phenomena, process control, and process design), to current research areas, (e.g. computer-aided process design and optimization, super-critical extraction, polymeric materials and environmental engineering). 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, drug delivery systems, engineering aspects of blood flow (biorheology), and the development of new biomaterials, and on-line sensors for process parameter measurements.

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, biomedical engineering, biomaterials, and engineering biotechnology.

Chemical engineering research facilities include an electron particle counter, an image analysis system, 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.

Strong collaboration with the College of Medicine, as well as, the Chemistry, Biology, Industrial, Civil, Mechanical, and Electrical Engineering Departments makes most research programs in Chemical Engineering truly interdisciplinary.

Biomedical Engineering and Engineering Biotechnology

Although the College of Engineering does not offer degrees in Biomedical Engineering or Engineering Biotechnology, a sequence of courses in the engineering aspects of biotechnology is currently available within the Chemical Engineering program. Topics include biomass production, enzyme technology, bioremediation, biohazardous materials, and pharmaceutical engineering. Research opportunities are available.

Biomedical engineering is a highly interdisciplinary program, drawing from all engineering disciplines, the life and physical sciences, and the biomedical and clinical sciences. Students can develop a graduate program which emphasizes biomedical engineering, drawing upon coursework from engineering, the health sciences center, public health, and arts and sciences. There are currently several active areas of biomedical research, involving faculty members from the colleges of engineering and medicine.

Please contact the Department of Chemical Engineering for more information on the above programs.

Civil and Environmental Engineering

The Civil and Environmental Engineering Department offers graduate programs at both the master's and Ph.D. levels.

Additional Admission Requirements

In addition to the admission requirements of the College of Engineering, the Department of Civil and Environmental Engineering requires that applicants have at least a 2.7/4 GPA on their last 60 hours of course work; have a combined score of 1000 on the sum of the verbal and quantitative portions of the GRE (Graduate Record Examination); and applicants to the M.S. and Ph.D. programs must score at least 400 and 450 on the verbal portion of the GRE, respectively. Applicants without an engineering degree may be considered on an individual basis but will have to complete prerequisite work as specified in the departments Graduate Brochure before being considered as degree candidates.

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. All graduate courses are offered 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 industry and firms involved in planning, design, research and development, or regulation.

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 is headquartered in the department; however, its significant strength is the diversity of additional participants from the Departments of Chemical Engineering, Biology, Chemistry, Geology, and Environmental and 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 management.

The Center for Modeling Hydrologic and Aquatic Systems (CMHAS) is an integral part of the department. Formerly the Center for Mathematical Modeling, the Center has contributed significantly to water resources research since the early 70's. The CMHAS's charge is to perform fundamental and applied research towards developing, maintaining, and upgrading mathematical models used to study, design, and manage hydraulic, hydrologic and receiving water (inland and coastal) systems. Undergraduate and graduate students actively participate in this research while pursuing degrees in water resources disciplines of civil engineering. In cooperation with Engineering Computer Services, the Center maintains the most up-to-date computational resources (hardware and software) available for student use in the College.

The Department offers the following graduate degrees: M.E., M.S.E., M.S.C.E., M.C.E., and Ph.D.

The M.S.C.E. and M.S.E. are research oriented degrees where the student defines, examines and reports in depth on a subject area relevant to engineering as a major part of the degree requirements. The programs consist of a minimum of 24 credit hours of coursework and 6 credit hours of thesis or a minimum of 27 hours of coursework and 3 credit hours of

engineering project. The purpose of the project or thesis research is to instill in the student the ability to inspect, evaluate, and report on a subject of interest to the engineering profession. Students with undergraduate Civil Engineering degrees from an ABET accredited program will receive a Master of Science in Civil Engineering (MSCE) degree while students who do not have an ABET accredited undergraduate Civil Engineering degree will receive a Master of Science in Engineering (MSE) degree.

The Master of Civil Engineering (M.C.E.) degree provides 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) a minimum of 18 credit hours of design coursework, (2) study in non-engineering areas related to professional practice, such as management, administration, public policy, technical communications, and environmental studies, (3) participation in the Fundamentals of Engineering 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.

The Master of Engineering (M.E.) degree provides a student with the opportunity of obtaining an advanced degree by coursework only. The minimum coursework requirement for the M.E. degree is 33 credit hours. This degree is intended for students who will have had at least two years of Civil Engineering related work experience prior to completion of degree requirements. The work experience should include the preparation of engineering reports. The student's graduate committees may require documentation of report writing ability before approving this degree. This degree is recommended for part-time students who find it difficult to do a project or thesis research because of their work commitment. All of the Department's graduate courses are offered on weekday evenings which permits part-time and FEEDS (Florida Engineering Education Delivery System) students the opportunity to seek a graduate degree.

Graduate Interdisciplinary Transportation Program

The Department of Civil and Environmental Engineering, jointly with the Department of Economics and the Public Administration program, and in cooperation with the Center for Urban Transportation Research, offers an interdisciplinary transportation program designed for graduate students in civil engineering, economics, and public administration who desire a better understanding of transportation issues or who plan careers that involve helping solve transportation problems. The students accepted into the program enroll in a common set of core courses that address transportation issues. A common body of knowledge is thereby developed among the disciplines and each student acquires expertise in all three disciplines. Tomorrow's transportation issues will become more and more complex and require an increasing diversity of skills. It is the goal of this program to provide students with the diversity of skills and an understanding of the expertise and methodologies that the civil engineering, economics and public administration disciplines have to offer to the transportation field.

To participate in the program, each student must first be admitted to the master's degree program in civil engineering, economics or public administration. A limited number of research assistantships are awarded to program participants each year by the sponsoring departments and by the Center for Urban Transportation Research. For information, contact Civil Engineering at (813) 974-2275, Economics at (813) 974-4252, Public Administration at (813) 974-2510, or the Center for Urban Transportation Research, (813) 974-3120.

Certificate of Concentration in Solid and Hazardous Waste Management Students wanting to focus their graduate study in the area of solid and hazardous waste management

may pursue the Certificate of Concentration in Solid and Hazardous Waste Management, which is awarded after completion of the Certificate of Concentration requirements and the Master's or Doctoral degree in the student's home department. This is an interdisciplinary program that supplements Departmental requirements to give the student unique understanding of this area. Further information is available from the Department.

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, VLSI Design and Test, software engineering, neural networks, computer networks, computer databases, computer system organization, fault-tolerant computing, artificial intelligence, theory of computation, coding theory, expert systems, human/computer interaction, computer vision, image processing, and computer graphics.

In addition to the vast array of college-wide computer facilities, the Department's facilities include an open-access computer laboratory equipped with SUN SPARC and DEC workstations, image processing workstations, an Intel Hypercube of 16 nodes and a substantial number of graphics-oriented personal computers. There are specialized laboratories for research in Artificial Intelligence, Computer Graphics, VLSI design, Computer Vision, Software Engineering, Computer Graphics, and Database/computer networks. These laboratories are each equipped with workstations and other specialized hardware. The college-wide network consists of a number of SUN servers, workstations, and PCs in various configurations. In addition, the University operates a large IBM Mainframe, which is available for the Department's instructional and research purposes.

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 computer networks and reliable computing, artificial intelligence, databases, fuzzy logic, machine learning, image processing, computer architecture, computer-aided design, software engineering, user interface design, computer vision, graphics, application-oriented VLSI architectures, and coding theory. Consequently, students have a wide range of research areas available for theses and projects.

The Computer Science and Engineering department offers a graduate certificate at the Master's level in Information Systems. It can be obtained by taking 15 semester hours from a prescribed set of courses in the Information Systems area. Example courses are Expert Systems, Databases, Computer networks, Artificial Intelligence, Human Computer Interfaces, Principles of Engineering Management, Technological Forecasting, and Software Engineering.

The department administers the master's degrees in Computer Engineering (M.S.Cp.E., M.Cp.E.) and Computer Science (M.S.C.S., M.C.S.), and a Ph.D. degree in Computer Science and Engineering. Students may select a thesis (M.S.Cp.E. or M.S.C.S.) or non-thesis (M.Cp.E. or M.C.S.) option. Many graduate courses offered by the department are available to practicing engineers through the FEEDS (Florida Engineering Education Delivery System) program.

Electrical Engineering

The Department of Electrical Engineering of the University of South Florida offers degrees at the Doctoral and Master's level. The major areas of instruction in the department are circuits, controls, and systems; communications and signal processing; microelectronics; wireless circuits and systems; and electric power systems. Occasionally projects in other areas such as modal analysis, computations, optimization, thermal management, or medical imaging are conducted.

The Department's research efforts are supported by well-equipped laboratories in the areas of compound semiconductors, electro-optics, IC design, noise and reliability, thin

dielectric films, restructurable VLSI, communications and signal processing, and micro/millimeter waves. Extensive computing facilities are also housed in Engineering Building II.

Current and previous Ph.D. dissertations explore the areas of microelectronics (materials and devices of elemental and compound semiconductors, circuit design, modeling, testing, and reliability); communications and signal processing (communication networks, packet switching, digital video and HDTV, ISDN, optical fiber communication, satellite communications, comm-software, comm-terminals, microprocessors and VLSI for signal processing); 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.

Master's programs include options in the six major areas listed above. Other programs may be tailored for students with special interests. Non-thesis master's studies, comprising 33 credit hours, 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, facilities 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, flexible automation, quality control, applications in robotics, human factor engineering. The departmental laboratories include two full-size industrial robots, CNC and DNC machine tool systems, a 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 Industrial Engineering (MIE), the Master of Science in Engineering Management (MSEM), and the Ph.D. in Industrial Engineering. The Department participates in the college's MSE, ME and MSES programs. Areas of concentration in the Masters and Doctorate programs include manufacturing systems, quantitative analyses (production scheduling and control, quality and reliability, repair and maintenance) and human factors.

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. A minimum of 36 credits of approved coursework beyond the bachelor level is required, 21 credits of core work and 15 credits of electives. A thesis option is available to MSEM students who are interested in applied research. Up to 6 hours of advanced courses in the student's area of specialty may be taken as electives.

Direct questions to the Industrial and Management Systems Department via phone (813) 974-2269 or e-mail: manrow@eng.usf.edu.

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.

Master of Science in Engineering -- 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 option (consisting of 18 hours core and either 18 hours of electives or 6 hours of electives and a thesis). The degree is administered by the Industrial Engineering Department and is a true interdisciplinary degree emphasizing Robotics, Automation, Computer Aided Design, Computer Integrated Manufacturing, Control Systems, Software Systems, Hardware Systems, and Production Systems.

The student 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.

Admission requirements for the programs within the department of ISME are generally higher than the general entrance requirements stated for the College of Engineering. Specific questions pertaining to admission and program requirements may be answered by contacting the Industrial and Management Systems Department.

Mechanical Engineering

The Department offers graduate programs 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, thermodynamics, combustion, heat transfer, robotics (with an emphasis on automation, miniaturization and instrumentation), mechanical controls, vibrations, tribology, computer aided engineering, computational methods in structural mechanics, computational fluid dynamics, energy conservation, system simulation, and analysis of composite materials. Departmental laboratory facilities include mainframe, mini and personal computers, a wide assortment of basic instrumentation with A/D converters, a subsonic wind tunnel with laser-doppler anemometer, 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 also maintains a CAD Laboratory with AutoCAD and Algor and a CFD Laboratory with Phoenix.

The department administers the Master of Science in Engineering (M.S.E.), the Master of Science in Mechanical Engineering (M.S.M.E.), thesis or design project, Master of Mechanical Engineering (MME) with coursework only, and the Doctor of Philosophy (Ph.D.).

Additional Admission Requirements: Master's

In addition to the university's minimum admission requirements, students must also have
 A minimum GRE score of 1100 (verbal and quantitative) with a minimum of 600 on the quantitative portion or a GPA of 3.0/4.0 for the last two years of course work from a ABET accredited engineering program.

International students must score a minimum of 550 on the TOEFL examination.

Additional Admission Requirements: Ph.D.

Same as the above requirements except that the minimum required on the GRE are 1200 on the total score (verbal and quantitative) with 650 on the quantitative.

The Department of Mechanical Engineering has available, on request, the *Mechanical Engineering Graduate Program Handbook*, which delineates the Department's entrance requirements, programs of study, supervisory committee formation, and program completion requirements.

Cooperation with Other Colleges and Departments

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.

Support 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.

During the academic year 1994-95, the USF College of Engineering contracted more than \$11.7 million in externally sponsored research. 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 and industry adds additional meaning and depth to the engineering education offered by the college.

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

Engineering Computing provides college-wide access to computing for students and faculty. Students and faculty also have access to local facilities in the engineering departments, the distributed systems of Academic Computing and the IBM facilities at the Central Florida Regional Data Center (CFRDC).

The College of Engineering operates a cluster of file and computer servers for students and faculty within the College. Standard programming languages and larger scale engineering software are provided on these machines. Convenient links are available for access to the vector processor at CFRDC.

In addition to these networked second tier facilities, the College operates open access P.C. labs. Two are available for undergraduate engineering students; a third lab is reserved for graduate students and faculty. There are 90, 50MHz 486 workstations in these labs. These labs are also networked, and E-mail and Internet access is available from all seats. All engineering faculty and students can have computer accounts, E-mail, and Internet access on request.

The college-wide Ethernet is connected to the USF campus-wide FDDI ring, this provides the connectivity to the IBM facilities in those of Academic Computing. Within the College, connections are provided to offices, laboratories, classrooms, and dial-in access is available

both from an engineering modem bank as well as from general USF modem banks. The FEEDS studios are also networked to provide demonstrations for remote classes.

Florida Engineering Education Delivery Systems (FEEDS)

FEEDS is a cooperative effort among all of the institutions in the Florida State University System (SUS). Colleges of Engineering with approved graduate programs are designated as primary centers. The primary centers make courses available to engineers throughout Florida. The other SUS universities are cooperating centers and make space available for local engineers to attend classes supplied by one or more of the primary centers. Many companies elect to support an in-plant site with internal resources.

The purpose of FEEDS is to provide a transparent delivery system and communications link between graduate faculties located on campus and graduate students who are employed by Florida companies in an engineering capacity. Florida's industrial, political, and educational leaders agree that ready access to the highest quality engineering education by professionals throughout the state plays an important role in the growth of high technology industry and in the economic and social health of all its people.

FEEDS as a delivery system is separate and distinct from the academic programs it carries to distant locations. The graduate degree which is conferred, upon completion of necessary requirements, is the same one associated with the appropriate program and department on campus. Admission and performance criteria are identical for those on- and off- campus. The system is designed to deliver as much of the academic program as is practicable at a FEEDS industrial or cooperating site.

Providing access to graduate degrees at off-campus affiliated locations is the primary purpose of FEEDS. However, access is also provided for individuals who seek only graduate courses for the purpose of professional development. Courses are available in all engineering disciplines supported at USF. Individuals are served only at a cooperating university center or at affiliated corporate sites. Corporations may contact the Assistant Deans's Office in Engineering about becoming a FEEDS site.

Admissions, Advising, and Registration Since FEEDS is a delivery system providing access to campus programs, all campus admission and performance requirements apply to distance located students. Each student registering for a course delivered 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 or contact the FEEDS office. Prospective USF students must refer to the admissions procedures and requirements in this Catalog.

FEEDS Center and site procedures require that students registering for courses coordinate with an advisor prior to registration. All students (degree and non-degree) must register each semester for each course desired. Registration and advising occur at the remote site in most instances and registration for FEEDS sections through normal campus processes is not permitted. Contact the appropriate site director, nearest FEEDS university center, or the Assistant Dean's Office in the College of Engineering for information, schedules and procedures.

The Center for Microelectronics Research (CMR)

The Center for Microelectronics Research has the mission of conducting new and creative state-of-the-art research in microelectronics materials, devices and processes, design, prototyping and test; and to promote the transfer of this technology to industry and government. The Center consists of research faculty with academic appointments in either the College of Engineering or the Physics Department, a full-time engineering research staff, and research assistants who are graduate students in one of the academic departments. CMR was authorized by the State Legislature in 1986 and began major operations in 1988. CMR has rapidly grown to critical mass with twenty faculty and staff engineers, and an investment of over \$5M in seven laboratory facilities. Funding for CMR comes from state, federal and industrial grants.

Investigation of design and test methodologies for very large scale integrated (VLSI) systems remains a major research focus for CMR along with research into high speed test, interconnect and rapid prototyping technologies for ULSI, wafer scale and multichip modules (MCMs). Defect Engineering in semiconductor materials is also a major component of the CMR research agenda, with specific emphasis on development of in-line monitoring techniques for next generation IC fabrication, and on materials technology for flat-panel poly-silicon display systems. For more information contact CMR.

Center for Urban Transportation Research (CUTR)

Established in 1988, CUTR is a nationally recognized State- and grant-funded research center established to find innovative and implementable solutions to transportation problems. Its multidisciplinary staff includes 38 full-time researchers from the fields of economics, engineering, planning, geography, and public administration who integrate analytical capabilities with "real world" experience to provide technical support, policy analysis, and research support to a variety of public and private organizations and agencies in Florida and the U.S.

CUTR is designated a National Urban Transit Institute by the U.S. Congress, which allows for \$1 million funding per year for the study of national transportation policy issues by a consortium lead by CUTR, which includes Florida A&M University, Florida International University, and Florida State University. State and grant research funding currently exceeds \$4 million annually.

Graduate students from diverse educational backgrounds such as engineering, economics, geography, and public administration who have an interest in transportation are employed as assistants to aid ongoing research of the center.

For more information, contact CUTR.

Southern Technology Applications Center (STAC)

The Southern Technology Applications Center (STAC) is an integral part of the National Technology Transfer Network and operates as the NASA Southeast Regional Technology Transfer Center. Created eighteen years ago by NASA and the State University System of Florida, STAC has evolved into a regional, full-service technology transfer network of technology and business assistance resources. STAC provides linkages with a wide range of university, government, and industry organizations to assist clients in obtaining and applying technology and expertise to produce technological innovation on all scales and be competitive in the marketplace. One of STAC's primary missions is to facilitate private sector access to and commercialization of the \$22 billion per year research and development efforts of the federal government.

Resources and problem-solving capabilities offered includes on-line information research, analysis and report preparation, patent and trademark searches, expert and facilities locating, market analysis, commercialization assistance, and technology transfer training. Assistance is provided in participating in federally funded technology programs such as the Small Business Innovation research and Advanced Technology programs. A minimal fee is charged for some services.

Florida's southwest region is served by the STAC office located in the College of Engineering at the University of South Florida.

COLLEGE OF FINE ARTS

Degrees Offered

Master of Fine Arts (M.F.A.), Master of Arts, Master of Arts in Music Education, Master of Music

General Program Information

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 students in the practice of creating, performing, presenting, teaching and understanding theatre, music, dance, and the visual arts.

Our mission is three-fold:

1. Teaching the disciplines for creating, performing, presenting, teaching 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 in guiding 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 the program-of-emphasis-status by the Board of Regents of the State University System. The college offers degree programs in art, dance, music, theatre, music education, and art education.

Visiting Artists Program

The College of Fine Arts is committed to creating and cultivating an artistic environment to enhance the total learning experience of its students and the community at large. Each year performing groups are invited to the campus for a period of residency. The visiting artists provide opportunities for students and the community to participate in their teaching, creative, and performing activities. Names of the past visiting artists are available from the departments.

Financial Aid

Graduate assistantships and other fellowships are available to students who show a potential for creative contribution to the profession. Students who are interested in assistantship

positions should contact departmental graduate advisors early in the spring for best consideration for the following academic year. Additionally, loans, grants, and work programs are available to qualified students. Financial aid is granted on the basis of need, academic promise, and character.

General Admission Requirements:

In addition to the university's minimum admission requirements, each program within the College of Fine Arts has its own requirements for admission. Students should check the program description that follow for specific requirements.

Art Department

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

The major concentrations, or areas of emphasis, available to M.F.A. students are: Drawing, Painting, Sculpture, Ceramics, Computer Imaging, Printmaking, Photography, and Film. Students who wish to work with more than one media or in a combination of media are encouraged to do so.

Additional Admission Requirements

The MFA program admits students in the fall semester only. Applications must be mailed to the Graduate Admissions Office and postmarked prior to February 15. In addition, other than GRE scores and transcripts, **all materials supporting the application (described below) should be sent to the Visual Arts Department, c/o of the Graduate Advisor, by February 15. Incomplete applications will not be reviewed.**

The applicant must submit a portfolio of art work directly to the Graduate Advisor in the Visual Arts Department for faculty review. The portfolio should consist of 10-15 separate works in 35mm slides. Applicants in drawing, printmaking, and photography should also send the original works. Applicants in film studies should submit at least two works. These should not be the original prints. The portfolio should provide recent evidence of maximum strength in the area of the applicant's primary interest. However, work submitted may represent more than one discipline. A self addressed, stamped envelope with sufficient postage for return of all materials must accompany the portfolio.

In addition to the portfolio, applicants to the Master of Fine Arts degree program are required to submit a statement of intent, which indicates their aims and goals as a graduate student at USF. In addition, 3 letters of recommendation, sent directly from those professionally qualified to comment upon the quality of the applicant's art work or potential success in a graduate program, should be directed to the Graduate Advisor in the Visual Arts Department for faculty review.

Academic Success

A student may be accepted into the MFA program either provisionally or fully. When accepted fully as degree-seeking, students will be reviewed by the graduate faculty at the end of every semester and will have two opportunities to be advanced to candidacy. At the end of the second or third semester of the student's enrollment in the MFA program, excluding summers, the graduate faculty will determine whether the quality of the student's work, depth of involvement, and sense of direction merit advancement to candidacy.

Advancement to candidacy indicates that the student is deemed ready to complete the program by preparing the thesis exhibition and documentation. A student not advanced to candidacy after a second attempt will be terminated from the program. Upon acceptance to candidacy, students must select a thesis committee of three faculty members, one of which must be studio faculty in the student's primary discipline.

Program requirements

The MFA degree requires a minimum of 60 hours. The bulk of a student's program is discretionary and is planned initially with the Graduate Advisor until the formation of the thesis committee, which functions in an advisory capacity. Specific program requirements include:

12 hours in art history, work in theory (ART 6936 Graduate Seminar - 2 hours credit; Graduate Thesis Documentation - 2 hours credit; Graduate Forum ART 0000 - 4 hours credit), participation in instruction (ART 6937 graduate instruction methods - variable credit up to 4 hours), presentation of work (thesis exhibition, for which credit is normally given) and, during final two semesters, thesis writing (ART 6971 Master's Thesis - variable credit).

A student cannot take any coursework for a grade of "S-U" until achieving candidacy. All coursework taken before candidacy must be taken in coursework assigning letter grades.

Non-degree Seeking Student

Requests for use of transfer credits or credits earned as a non-degree seeking student 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 (maximum 8 semester hours) earned as a non-degree seeking student will be used toward the MFA degree.

Thesis Examination

MFA students also are 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 other graduate students.

Studio Space

A graduate student normally is assigned a studio, when available, in the department and is expected to remain in residence with regular studio hours while enrolled.

Master of Arts (M.A.)- Art History

This program emphasizes the history of art from the Middle Ages 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 reading knowledge of French or German is required.

Additional Admission Requirements

Students are admitted into the MA program in fall semester only. The university application for admission to graduate study must be mailed to the Graduate Admissions Office and postmarked prior to February 15. In addition, other than GRE scores and transcripts, all **materials supporting the application (described below) should be sent to the Visual Arts Department, c/o of the Graduate Advisor, by February 15. *Incomplete applications will not be reviewed.***

The student must submit directly to the Graduate Advisor in the Visual Arts Department a research paper dealing with Art History or a related discipline (literature, political history, anthropology, psychology, philosophy or classical studies), and a statement of intent, which indicates the student's aims and goals in the MA program. In addition, three letters of recommendations from those professionally qualified to comment upon the quality of the applicant's academic work or potential for success in a graduate program in Art History should be sent to the Graduate Advisor in the Visual Arts Department for faculty review. A personal interview by the Art History faculty may also be requested.

All applicants who do not have an undergraduate degree in art history will be expected to complete a minimum of 4 undergraduate courses and two critical studies courses in the art history program. Any exceptions can be granted only by the art history faculty only.

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 (must be taken during first two semesters in program)
 - b. one historiography course
 - c. one cultural intellectual history course
 - d. one seminar

2. Museum internship, arranged through the Art History faculty, is optional and can be taken any term after the first semester.

Thesis

By the end of the student's second semester and completion of 18 hours, the student will select (in consultation with the art history faculty) a Faculty Graduate Thesis Committee. Students will be advanced to candidacy by the art history faculty based in part upon satisfactory completion of a thesis proposal. Achieving candidacy is indicative of the art history faculty's assessment that a student has the preparation necessary to write a successful M.A. thesis. The thesis defines the area of the student's specialization. The Graduate Thesis Committee must approve the written thesis and conduct the oral defense of the thesis in satisfaction of degree requirements.

Transfer of Credit

The Visual Arts Department will approve the transfer of only 6 credit hours from another institution and only 8 credit hours taken as a non-degree seeking student.

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.

Music Department

USF's music faculty has been carefully chosen for its training, performing ability, and ability to teach. USF music alumni are found teaching successfully in public schools and universities around the country and performing in a variety of concert settings.

Unique Learning Opportunities The School of Music 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 exciting and exacting period of study.

Visiting Artists and Artists-In-Residence

The School of Music invites guest composers, conductors, and performing musicians to enhance its performances and to provide master classes, symposia, and clinics for students and the public.

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. College Music Educators National Conference is an affiliate of the Music Educators National Conference and is open to all interested students. An International Association of Jazz Educators chapter is open to anyone interested in jazz. Pi Kappa Lambda, an academic honorary society for musicians, maintains a chapter in the School of Music.

Master of Music Degree (M.M.)

Five major concentrations are available to graduate (M.M.) music students:

Performance	Theory	Composition
Conducting	Piano Pedagogy	

Additional Admission Requirements

Concurrently, the applicant for the Master of Music degree must satisfy the following requirements before full acceptance can be granted:

- A performance audition or portfolio evaluation, and
- The Graduate Theory Examination.

The student will not be allowed to enroll in a graduate theory course at the 6000 level until the examination is passed. It is recommended that students who do not pass the Graduate

Theory Examination re-take an alternate examination by the end of the first semester of enrollment as a degree-seeking student.

Options for students re-taking the Graduate Theory Placement Examination include:

- a. Enrolling in an undergraduate class in the area of deficiency.
- b. Taking a Graduate Review Course.
- c. Correcting the deficiency through private tutoring or other instruction before re-taking the examination.

Dates and times for auditions and diagnostic examinations may be obtained by calling or writing the School of Music.

Program Requirements

In addition to any general University and college requirements, the applicant for the Master of Music degree must successfully complete a comprehensive examination at the end of the program of study. Details regarding this examination may be obtained from the Coordinator of Graduate Music Studies, School of Music. (The format for this exam may differ according to a particular field of study.)

All candidates for the Master of Music degree must take the following course work:

Techniques of Research in Music**	3
20th Century Music Literature	3
Critical Analysis of Theory	
or	
Critical Analysis of History	2

** Recommended for the first semester of enrollment.

For performance majors, a secondary applied music course may not be used to satisfy the requirements for applied music. A student must enroll for the major applied offering (4 hours).

Degree requirements vary according to the program chosen and the student's needs and interests. Each program of study must be approved by the Coordinator of Graduate Studies to conform with guidelines established by the music faculty. The responsibility for seeing that all graduation requirements are met rests with the student.

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

Additional Admission Requirements

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 Coordinator of Music Education.

Program Requirements

Plans in instrumental, vocal, and general music are offered. 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, MUS 6793, and successful completion of the general examination at the end of the program. Program requirements include successful completion of the Graduate Theory Examination. Date and time for the theory examination may be obtained by calling or writing the School of Music.

The student will not be allowed to enroll in a graduate theory course at the 6000 level until the examination is passed. If a student does not pass the Graduate Theory Examination, it is recommended that he/she re-take an alternate examination by the end of the first semester of enrollment as a degree-seeking student.

Options for students re-taking the Graduate Theory Examination include:

- a. Enrolling in an undergraduate class in the area of deficiency.
- b. Taking a Graduate Review Course.

c. Correcting the deficiency through private tutoring or other instruction before re-taking the examination.

Students seeking music teacher certification should contact the College of Education listings under Program, Plans of Study.

Ph.D. in Curriculum and Instruction -- Music Education

The Ph.D. 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.

Additional Admission Requirements

Undergraduate grade point average of 3.0 minimum during the last 2 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

Three letters of recommendation

Favorable recommendations from program faculty

A Master's degree in music education or music from an accredited institution of higher education

At least 2 years of full-time public or private school music teaching experience.

After consulting the Music Education Coordinator, 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.

Program Requirements

Specialization	21 hours
Cognate area	12
Dissertation	
Foundations	8
Statistics/measurement/research design	12
Total	83

Other specific requirements can be obtained by contacting the Coordinator of Music Education.

College Activities and Events

The College of Fine Arts arranges a full schedule of concerts, plays, lectures, films, and workshops featuring students, faculty, and visiting artists. 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 Fine Arts Events Office.

Visiting Artists and Artist-in-Residence

The Department of Visual Arts 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, Robert Colescott, Leslie King-Hammond, Barbara Kruger, Lucy Lippard, Robert Mapplethorpe, Robert Morris, Matt Mullican, and Robin Winters.

Art Museum

The Art Museum presents a schedule of changing contemporary exhibitions in the Art Museum faculty (FAM), in the Teaching Gallery in the Fine Arts building (FAH), and in the lobbies of Theatres I and II. 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 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.

Graphicstudio

The Graphicstudio is an internationally renowned art workshop that promotes innovative methods in sculpting and printmaking. It is the only such program to have its art works archived at the National Gallery. The distinctive mission of Graphicstudio attracts many prominent artists, which provides unique learning opportunities for graduate students.

African Art Program

In conjunction with the Endowed Chair and program in African Art History, the College promotes understanding of African art and provides research opportunities for persons interested in African Art. A curriculum with an interdisciplinary emphasis on traditional African arts, new world diaspora, or transAfrican forms is being coordinated with specialists and collectors in the field. USF exchange and partnership programs in contemporary art instruction and exhibition are also being developed with the Federation of Bantu-speaking Nations in Africa.

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. 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.

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.

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. 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 concerning this program 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.

Departments within the College of Medicine may have additional requirements that pertain to their respective training program. These can be found in the guidelines prepared by the individual Departments which should be consulted for further information.

Additional Admission Requirements

Completed application forms, GRE scores, and two official transcripts of undergraduate and any previous graduate work should be sent to the University of South Florida Admissions Office, Tampa, FL 33620.

An overall GPA of 3.0 on a 4.0 scale with a minimum GPA of 3.0 in undergraduate science courses.

A GRE score of 1100 (total verbal and quantitative) 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.

Three letters of recommendation should be sent to the Associate Dean for Research and Graduate Affairs, University of South Florida College of Medicine, MDC Box 40, 12901 Bruce B. Downs Blvd., Tampa, FL 33612.

The applicant must have a background in the sciences, including biology, chemistry, physics, and mathematics. Particular admission criteria are available from the individual departments.

In addition to course requirements summarized above, 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.

Except for the State or University minimum admission criteria, all other requirements herein summarized, 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 for graduate students. Applicants seeking support should contact the chairperson of the department to which they are applying.

Major Research Areas

Anatomy Research areas: Neuroendocrinology, Neuroimmunology, exploration of testicular function and dysfunction, hormonal control of testicular structure, embryo development, computer-aided anatomical reconstruction and diagnosis, pain mechanisms and stimulation-produced analgesia, cardiac morphometry, angiogenesis, cardiac function and adaptation, cytoskeletal control and alterations. Skeletal muscle aging, structure and function, and cell interactions during development.

Biochemistry and Molecular Biology Research areas: Biochemistry and molecular biology of Alzheimer's disease, atherosclerosis, cancer and porphyrias; hormonal regulation of cholesterol biosynthesis; chemical carcinogenesis; growth factors; control of gene expression; HLA gene structure; protein chemistry and structure; bioenergetics; metalloenzymes; heme biosynthesis; connective tissue biochemistry; molecular immunology; signal transduction; biochemistry of thyroid, steroid and peptide hormones.

Medical Microbiology and Immunology Research areas: Aging, bone marrow transplantation, cell signalling, experimental vaccine development, host defense mechanisms against *Bartonella*, *Legionella*, *Treponema* and both murine and human retroviruses, molecular and cell biology of lymphokines and their receptors, molecular biology of intracellular

bacteria and tumor viruses, modulation of the immune system by drugs of abuse, drug receptors on immune cells, natural killer cells, novel antiviral drugs, stress and immunity.

Pathology and Laboratory Medicine *Research areas:* Reproductive pathobiology; pathogenesis of ovarian epithelial cancer; pathobiology of the lung surfactant system; injury and repair of alveolar epithelium; cellular responses to environmental oxidant injury; hematopoietic stem cell interaction with cellular microenvironment; bone marrow differentiation and regulation of gene expression; molecular biology of lymphocyte membrane proteins.

Pharmacology and Therapeutics *Research areas:* Cellular and molecular mechanisms associated with aging of the brain and smooth muscle; neurochemistry and neuropharmacology of cholinergic system aging; effects of nicotine. Drug metabolism within the CNS. Cytokine effects in the CNS and on purified neural cell preparations. Metabolism of Alzheimer's amyloid by metalloproteases. Mechanisms of neurotoxicity caused by Alzheimer's amyloid. Function of the Alzheimer's S182 gene. Age-related changes in the brain's reaction to injury. Regulation of brain transcription factors by injury and toxins. Site-directed mutagenesis of neurotransmitter receptors. Isolation of grape products which cause vascular smooth muscle relaxation. Cyclic nucleotide metabolism in bronchial and vascular smooth muscle. Nitric oxide effects on smooth muscle and the immune system.

Physiology and Biophysics *Research areas:* Control of vascular smooth muscle reactivity in microvessels and calcium fluxes during excitation-contraction coupling. Renal physiology; hypertension, atrial natriuretic factor; cardiac hormones. Neuromuscular communication, acetylcholinesterase, Alzheimer's disease, neurogenic-neurotrophics factors. Neurophysiology of Breathing: Analysis and simulation of brain stem neural networks that control breathing and coughing. Regulation and expression of sterol carrier proteins; steroidogenesis. Diabetes, mellitus regulation of blood flow in atherosclerosis. Endocrine and neuroendocrine control of reproductive processes. Emphasis is on interactions among the hypothalamus, pituitary and gonad. Vascular biomechanics and intrinsic mechanisms in the control of smooth muscle including study of microvessels in shock. Renal hemodynamics in endotoxic shock; pregnancy-induced hypertension-etiology and pathogenesis. Regulation of ionic currents in the developing sensory and ganglion cells of the peripheral auditory and vestibular systems. Physiology of atrial natriuretic peptides. Structure-function relationship of ion channels. Activation kinetics of ligand- and voltage- operated ion channels.

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. This program is accredited by the National League for Nursing.

Successful completion of the master's program in advanced nursing practice (Adult, Gerontology, Family, Pediatrics, and Psychiatric-Mental Health) meets the eligibility requirements for advanced practice licensure (ARNP-nurse practitioner) in Florida and qualifies students to sit for national certification examination by the American Nurses' Association as clinical specialists or nurse practitioners. Graduates from Community Health and Oncology concentrations are eligible to take national certification examinations as Clinical Specialists, but may need to take additional practicum hours to meet the ARNP licensure requirement in Florida for nurse practitioners. (The Florida State Board of Nursing is currently reviewing selected programs.)

Master of Science in Nursing

The program in Nursing leading to a Master of Science degree prepares its graduates for careers in advanced practice. Students choose from a variety of nursing specialty options in advanced practice roles and enroll in a prescribed set of core courses central to all specialty options student as well as specialty courses and electives.

Graduate Programs Objectives

Graduates of the M.S. in Nursing at the University of South Florida are prepared to:

1. Synthesize knowledge from the natural and social sciences and the arts.
2. Apply principles from the advanced practice knowledge base in clinical decision making to improve health outcomes in client populations.
3. Contribute to the advancement of the profession through research, consultation, collaboration, education, leadership and clinical excellence.
4. Influence health care services to diverse client groups as a: clinical expert, client advocate, and active participant to the development of health policy, including legal and ethical parameters.
5. Continue in professional and self development through participation in formal and informal educational experiences, including pursuit of doctoral study.
6. Promote inquiry as the process for effecting change in self, clients health care systems, and society.

Additional Admissions Requirements

Students must fulfill the University Graduate School admission requirements and College of Nursing admission requirements for acceptance into the graduate program at the Master's level. 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. In addition to general University admission requirements and regulations governing graduate study, the College of Nursing has its own requirements. Application for admission is made through the Graduate Admissions Office in order to meet all deadlines. When all required information is received by them, it is forwarded to the College of Nursing for final processing.

Prospective students must submit evidence of the following :

Baccalaureate degree in nursing from an accredited program.

Upper division GPA of 3.0 and combined score of 1000 or greater on the verbal and math sections of the GRE. Transcripts of all previous collegework should be submitted.

Current licensure as a registered nurse in the State of Florida. One year or more of recent clinical practice is highly recommended.

Three letters of reference, indicating potential for graduate study, from persons who can attest to the applicant's academic ability, clinical competence, and commitment

A course in statistics, including introduction to probability and testing hypotheses within the past five years.

An undergraduate research course.

Personal interview with designated College of Nursing faculty (phone interviews are acceptable for out-of-state students).

Program Requirements

The M. S. program in nursing requires completion of a minimum of 44 graduate credit hours. Academic advisors work with students to design both full-time and part-time program plans in the specialty areas. The curriculum for all advanced practice concentrations includes the following components: core courses for advanced practice nursing, cognate and thesis/directed research requirements, courses in the selected concentration of advanced practice, and electives. A comprehensive examination is required of students who elect the directed research option in lieu of a thesis.

These program requirements are in effect for students admitted into the graduate program in Nursing for Fall semester, 1995 and thereafter. Students who matriculated in the program before Fall 1995 must see an academic advisor so that their program plans may be accommodated.

1. Advanced Practice Core (required of all students)

Five courses (16 credits) address the core knowledge and skills essential in advanced practice nursing. These courses include the Ethical, Legal and Policy issues in Advanced Practice (3), Family and Community Assessment (2) and Health Assessment in Advanced Practice (4), Physiology for Advanced Practice (4) and Pharmacology for Advanced Nursing Practice (3).

2. Theory/Research Core (required of all students)(10 credits)

Nursing Research (3 credits)

Theoretical Basis of Advanced Practice Nursing (3)

Thesis/Directed Research (4 credits min.)

Students are required to fulfill the research requirement of the curriculum through completion of a thesis or through participation in research directed by a faculty advisor. Students who elect the directed research option are also required to take a comprehensive examination (0 credit). Thesis requirements are consistent with those of the Graduate School. Since completion of a thesis is considered to be an integrative experience, students who fulfill the thesis requirements are exempt from the comprehensive exam.

3. Advanced Practice Nursing Specialties (12 credits)

The M.S. in Nursing offers several advanced practice specialty options. Students must fulfill requirements in one concentration.

Adult Health Nursing:

NGR 6204(2) NGR 6205 (1) NGR 6206(2) NGR 6207 (1) NGR 6212 (1-6)

Child Health Nursing

NGR 6300(3) NGR 6301(3) NGR 6302(1-6)

Family Health Nursing

NGR 6617(1-6) NGR 6634(3) NGR 6635(3)

Gerontological Nursing

NGR 6255(1) NGR 6256(2) NGR 6257(2) NGR 6258(1)
NGR 6259(3) NGR 6261(3)

Community Health Nursing

NGR 6620(3) Epidemiology (3) NGR 6621(1-6).

Critical Care Nursing

NGR 6143(3) NGR 6232(3) NGR 6944(1-6)

Oncology Nursing Concentration Courses

NGR 6096(2) NGR 6142(2) NGR 6949(1-6)

Psychiatric-Mental Health Nursing Concentration Courses

NGR 6230(6) NGR 6500 (3) NGR 6501(2) NGR 6538(1)

4. Electives

In consultation with an academic advisor, students select courses (6 credit hours) available as graduate electives within the College of Nursing or in other Colleges at USF. Electives in nursing education are available for students seeking preparation as beginning nurse educators.

NGR 6097(2) NGR 6050(3) NGR 6511(3) NGR 6710(2) NGR 6712(2)

NGR 6822(3) NGR 6905(3) NGR 6947(2-4)

NGR 6931 Special Topics (see schedule of electives posted in College of Nursing each semester)

Joint Degree Program (M.S./M.P.H) In Occupational Health Nursing

An interdisciplinary joint degree master's program jointly sponsored by the College of Nursing and the College of Public Health is available in Occupational Health Nursing. The program is a two- to three-year course of full-time study that provides an opportunity for baccalaureate degree registered nurses to obtain advanced practice preparation in adult health nursing, occupational health nursing and occupational health. Part-time study is also available. The course requirements for the M.S./M.P.H. are listed separately following the general M.S. degree requirements.

Program Requirements**College of Nursing Courses:**

NGR 6121 (3) NGR 6800 (3) NGR 6001C (4) NGR 6199 (3)
NGR 6140 (4) NGR 6650 (2) NGR 6650L (1) NGR 6651 (2)
NGR 6651L (1) NGR 6204 (2) NGR 6205 (1) NGR 6206 (2)
NGR 6207 (1) NGR 6212 (6-7)

College of Nursing Comprehensive Examination (non-thesis requirement)**College of Public Health Courses:**

PHC 6000 (3) PHC 6050 (3) PHC 6102 (3) PHC 6357 (3)
PHC 6930 (1) PHC 6355 (3) PHC 6310 (3) PHC 6934 (2)
PHC 6360 (2) PHC 6977 (3) PHC 6356 (2)

College of Public Health/Occupation Health Comprehensive Examination

COLLEGE OF PUBLIC HEALTH

The College of Public Health provides coursework, research methods, and field experiences to prepare students in the public health professions for the challenging health problems facing the State, nation, and other countries. The field of public health is broad and is open to students from diverse academic disciplines including Education, Business, Social and Natural Sciences, Mathematics, and Engineering. Graduates are prepared for careers as administrators, managers, educators, researchers, and skilled health professionals.

Course content is directly related to addressing and meeting public health issues and off-campus cluster programs may reflect additional offerings to meet specific needs.

Within the College of Public Health, the Florida Legislature has established the Florida Public Health Information Center (FPHIC) which was created to serve as a statewide center for policy oriented health services research.

Graduate Degrees Offered

Master of Public Health (MPH)
 Master of Science in Public Health (MSPH)
 Master of Health Administration (MHA)
 Doctor of Philosophy (PhD)

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/Clinical Social Work (dual program)
 Public Health Education
 Maternal and Child Health
 Public Health Nutrition
 Social and Behavioral Science/Public Health (MSPH and Ph.D. only)

Epidemiology and Biostatistics

Epidemiology
 Biostatistics (MPH and MSPH only)

Environmental and Occupational Health

Environmental Health
 Industrial Hygiene and Safety Management
 Toxicology
 Tropical Public Health/Communicable Disease
 Occupational Health for Health Professionals
 Occupational Health Nursing Dual Program (MS/MPH)
 Occupational Medicine Residency (MPH).

Health Policy and Management

- Health Care Organizations and Management
- Health Policies and Programs
- International Health Management
- Master of Health Administration (MHA)

General Program Requirements

Additional Admission Requirements (all programs)

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. **Ph.D. applications must be received by March 1st.** Students considering admission to 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 by the department as a condition of or prior to admission into the Master's degree programs. Prospective Masters students may apply for any of the three semesters.

In order to be considered for admission, a first-time graduate student or a student transferring from a graduate program at another university:

Shall have a total verbal plus quantitative GRE General Test score of 1000 or higher for the MPH, MSPH.

Shall have a total verbal plus quantitative GRE General Test score of 1100 for the Ph.D. GMAT scores may be submitted by applicants in the Department of Health Policy and Management; a GMAT score of 500 for the MPH and MHA and 600 for the Ph.D is required. Those with other GRE or GMAT scores will be considered on an individual basis.

Applicants to the Master of Science of Public Health Degree (MSPH) must have a 3.0 upper division GPA and a combined quantitative and verbal GRE score of 1000.

Applicants who have advanced professional degree (e.g.) MD, DDS, PhD, etc.) may request to have the GRE requirement waived.

Students who are qualified to enroll, but do not have the required documents by the application deadline dates, or those who do not intend to work toward a graduate degree, can complete up to 12 hours as non-degree seeking students. Grades of "B" or higher will be transferred to the student's program when they are accepted as degree-seeking students. Those planning to enroll as non-degree seeking students are advised to contact the Office of Academics at (813) 974-6665 for program information and (813) 974-6610 for registration guidelines.

Applicants with disabilities should contact the Disabled Students Academic Services (813) 974-4309 for more information. The College provides special classroom equipment for the hearing impaired.

College Core Courses

The following core courses are required for the MPH:

PHC 6000 (3) PHC 6050 (3) PHC 6102 (3) PHC 6357 (3) PHC 6410 (3)
 Total (15 hours)

Core requirements for the MSPH includes:

PHC 6000 (3) PHC 6050 (3) Elective Core (3)
 Total (9 hours)

Comprehensive Examination

The Comprehensive Examination is a requirement for all students seeking an MPH, MSPH or MHA degree in the College of Public Health. To be eligible for the examination, a student must have:

1. completed all required core courses
2. completed all required concentration area courses;
3. attained a 3.0+ GPA and be in good graduate standing;
4. met with their advisor to determine eligibility;
5. enrolled for minimum of two (2) semester hours during the semester of the Comprehensive Examination;
6. at least one month prior to the examination date, the student must submit to the Academic Dean, the Comprehensive Examination Application, which has been approved by the student's advisor and department chairperson.

The Comprehensive Examination will focus on the student's concentration area. The content of the examination will include the breadth of the field of public health as represented in the student's course work. Each Department will determine the single retake of the examination. Students retaking the exam must formally reapply through their advisor, departmental chairperson and the Associate Dean for Academics. Comprehensive exams will be given on the Friday of the first full week of November, March and June.

MHA Comprehensive Examination Candidates for the MHA degree will be required to pass an oral Comprehensive Examination which will focus on the candidate's Internship work and report, although examiner questions will not be limited to this subject matter. For candidates who have been exempted from the internship requirements, questions will focus on MHA coursework. Questioning will begin with the Examination Committee and proceed to the HPM faculty.

The Examination Committee will be comprised of the candidate's internship advisor and at least one other fully credentialed member of the graduate faculty of the Department, selected by mutual agreement between the student and the internship advisor.

The Examination will be held after all coursework and the Internship have been completed. The date, time and place for the Examination will be set by the Internship advisor in consultation with the student, at least two weeks before it is held. At this time, the student is required to submit the Application for MHA Oral Comprehensive Examination form to the Associate Dean for Academics.

An announcement of the examination will be prepared and distributed by the student to all faculty of the Department at least one week before it is held. At this time, a copy of the Final Internship Report will be circulated to the HPM faculty by the advisor.

At the conclusion of the MHA Comprehensive Examination, all attendees will leave the room with the exception of the Examination Committee. The Examination Committee will then make a pass or fail decision and notify the student of the result. The advisor will submit a memorandum stating the result to the Associate Dean for Academics.

Doctor of Philosophy (Ph.D.)

Additional Admission Requirements

Applicants to the Ph.D. in Public Health 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.

A combined Quantitative and Verbal score of 1100 or higher on the GRE; a GMAT score of 600+ will be considered in lieu of GRE by the Department of Health Policy and Management only.

Grade point average of 3.0 or higher.

Three letters of recommendation, one of which must be from a departmental faculty member after review and found admissible.

The MPH, MSPH or equivalent. Applicants who hold other graduate degrees may be considered for admission to the doctoral program, but they must complete core course requirements that include Epidemiology, Biostatistics, and one additional core course approved by their advisor (total nine hours).

Applicants must register as full-time students, for at least one academic year (Fall, Spring). Applicants must submit evidence of written/analytical skills to the College of Public Health. This shall take two 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 the applicant wishes to obtain a Ph.D. degree in Public Health. This statement must be less than five pages in length.

Program Requirements

Students lacking a master's degree in Public Health must take the 9 hours of core courses and 4 departmental concentration area courses 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 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: A minimum of 90 credit hours beyond the baccalaureate degree is required, including the following:

Public Health core courses (3 courses or equivalent) (9)

Advanced biostatistics course (3)

Required courses for concentration area or equivalent (12)

Required doctoral level courses (minimum) (13)

Elective courses, directed research, and a minimum of 18 semester hours in dissertation Evidence of teaching proficiency

Attendance Policy

It is the policy of the College of Public Health that a student will not be automatically dropped if they do not attend the first class of each semester. However, it is the responsibility of the student to notify the course instructor if they cannot attend the first class.

Financial Aid

In addition to the programs listed below, loans, work-study and other forms of financial assistance may be pursued through the Office of Financial Aid, SVC 1102, 974-4700.

Graduate Assistantships

Graduate Assistantships are available through the departments and are funded through grant funds. Eligible applications are forwarded to the departments. Application deadline dates are: Fall - April 1st, Spring - November 1st, Summer - February 1st. Applications are forwarded to all prospective applicants once the application for admission to Graduate School has been received.

U.S. Public Health Traineeships The College of Public Health cooperates with the U.S. Public Health Service in offering traineeships to our students. A traineeship is an award based on need which will help to defray part of a student's educational expenses. The recipient of a traineeship is encouraged to participate in departmental activities and research. The traineeship award includes a full or partial tuition waiver as well as a stipend. To be eligible for an award, a student must be matriculated full-time in the following areas: epidemiology, biostatistics, environmental health, toxicology, or public health education. The availability of traineeships is entirely dependent on federal funds, and they are therefore awarded solely on a semester basis. Students will be notified when funds are available. Awards are made by the departments upon recommendation of the departmental committee. Applicants must be U.S. citizens or permanent residents.

The National Institute of Occupational Safety and Health Traineeships are offered to accepted students in Industrial Hygiene/Safety Management Program, and Occupational

Health Nursing MS/MPH Dual Program. The traineeship award includes a tuition waiver for 9 hours, as well as a stipend. Applicants must be U.S. citizens or permanent residents. Applications are forwarded to all prospective applicants once the Application for Admission to the Graduate School has been received.

Maternal-Child Health (MCH) Traineeships are available to Florida resident and nonresident students admitted to the MPH or MSPH degree program in Maternal and Child Health within the Department of Community and Family Health. Traineeships provide student stipends and/or financial assistance toward tuition costs. The availability of MCH Traineeships is dependent on annual funding. Competitive awards are made on the basis of the following criteria: 1) students should hold a degree recognized by their own profession as conferring professional status in an MCH relevant field, 2) at least two years of professional experience related to MCH, and 3) career goals consonant with a commitment to MCH. Applications are forwarded to all prospective applicants once the Application for Admission to the Graduate School has been received.

The Carl A. Gelin Endowed Fellowship provides financial support to students in the Department of Health Policy and Management. The award is made by the department.

Florida Public Health Association accepts application/nominations for FHA Scholarships – \$500 for MPH or MSPH candidates. Letters should include: present position, future goals and ambitions, and past and present academic activities. Scholarship applicants must be FHA members. Inquiries or nominations should be directed to: College of Public Health, Florida Public Health Association, 13201 Bruce B. Downs Blvd., Tampa, FL 33612, (813) 974-6665.

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. 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.

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 program of study is designed for individuals representing a broad spectrum of health and human service professions: medicine, nursing, social work, nutrition, rehabilitation, early childhood education, health education, speech and hearing, social sciences and other health and human service professions.

The graduate program in maternal and child health prepares health professionals in a multidisciplinary, community-based approach to serve the public health care needs of women, children and their families. The curriculum enables students to acquire an in-depth understanding of specific content areas including organization and delivery of services; administration and management; legislative issues; policy development; financing mechanisms; community and organizational change; principles of social and behavioral sciences; family dynamics; maternal, child and adolescent morbidity and mortality; ethics; reproductive health and population dynamics; and problems and issues related to special populations. Students also develop analytical and methodological skills which can be applied to program development and the design and conduct of research and evaluation.

Program Requirements

College Core Courses (15 hours)
 Concentration Area Courses (12 hours)
 PHC 6530 (3) PHC 6537 (3)
 Support Courses (9 hours)
 PHC 6707 (3) PHC 6521 (3) PHC 6531 (3) PHC 6532 (3)
 PHC 6533 (3) PHC 6534 (3) PHC 6535 (3)
 Electives (6)
 PHC 6977 Special Project (3)
 PHC 6945 Supervised Field Experience (if applicable) (1-12 hours)
 Comprehensive Examination
Total Hours (39-51 hours)

Public Health Education

The graduate program in public health education serves an increasing 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 use of health services, and to promote participation in the design and implementation of these services which so dramatically affect the individual's health.

Program Requirements

College Core Courses (15 hours)
 Concentration Area Courses (6 hours)
 PHC 6500 (3) PHC 6508 (3)
 Support Courses (9 hours)
 PHC 6505 (3) PHC 6533 (3) PHC 6707 (3) PHC 6506 (3) PHC 6507 (3)
 Electives (6 hours)
 PHC 6977 Special Project (3 hours)
 PHC 6945 Supervised Field Experience (if applicable) (1-12 hours)
 Comprehensive Examination
Total Hours (39-51 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 after completion of 90 undergraduate hours. Full-time students are able to complete the required coursework within 2 to 2 ½ 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.

Additional Admission Requirements

Applicants to the accelerated entry program in public health education must have completed 90 undergraduate hours in a program related to the field of Public Health. These programs include social sciences, natural science, behavioral sciences, pre-med, nursing, education, etc. It is recommended that students consult the health education faculty of the College of Public Health concerning undergraduate coursework after completing 60 semester hours.

Prospective Master's students may apply for any of the three semesters. Academic requirements include an undergraduate GPA of 3.0 (in all work as an upper division student) or a combined quantitative and verbal GRE score of at least 1000.

Program Requirements**MPH Coursework**

Accelerated entry into the MPH requires at least 60 hours of classroom study in addition to a field experience. Minimum coursework requirements:

Program Introductory Courses (or Equivalent) (13 hours)			
HSC 4203 (3)	HSC 4541 (3)	HSC 4554 (3)	MHS 4052 (4)
College Core Courses (15 hours)			
Concentration Area Courses (6 hours)			
PHC 6500 (3)	PHC 6508 (3)		
Suggested Support Courses (9 hours)			
PHC 6505 (3)	PHC 6506 (3)	PHC 6507 (3)	PHC 6533 (3)
PHC 6707 (3)			
Content and Process Electives (13 hours)			
Electives will be selected with faculty advisor approval and may include:			
PHC 6934 (3)	PHC 6907 (3)		
PHC 6977 Special Project (3 hours)			
PHC 6945 Field Experience (1-12 hours)			
Comprehensive Examination			
Total 60-72 hours			

Public Health Nutrition Focus

The Department offers courses in Public Health Nutrition for those departmental students who have been admitted to MSPH or PhD programs. These select students should have previous training or experience in public health nutrition programs.

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 Arts and Sciences, University of South Florida.

The program curriculum enables students to develop skills for a 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 skills assist the social worker to target the needs of the client, both as an individual and as part of a group.

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 Arts and Sciences.

Master of Science in Public Health (MSPH) Degree Program

In the Department of Community and Family Health, the Master of Science in Public Health (MSPH) degree prepares students for careers oriented toward research, evaluation and needs assessment in community and family health.

Program Requirements

The degree requirements include the successful completion of three selected College of Public Health core courses, specialization area courses, research methods courses, thesis, public health seminars and a comprehensive examination. At least 12 hours of coursework exclusive of the thesis must be taken with the Department of Community and Family Health.

College of Public Health Core Courses (9)

PHC 6000 (3) PHC 6050 (3) Elective Core (3)

Specialization Area Courses (27) (including Research Methods courses)

Public Health Seminar

Thesis PHC 6971

Comprehensive Examination

Minimum requirement (44)

Specialization Area Courses: May be selected from the following fields of study offered through the Department of Community and Family Health: maternal and child health, public health education, public health nutrition and social and behavioral sciences. Courses also may be selected from other USF college offerings.

Ph.D. Program

The Department of Community and Family Health doctoral curriculum is a cooperative, learning, research, and problem-solving venture 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 assume leadership positions at the local, state, and national levels.

Additional Admission Requirements

Students seeking entrance into the program should have sufficient work and educational experience to permit them to focus their research efforts in the area of public health. 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, nurse midwifery, etc.

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 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 be prepared with a background of sufficient depth to function as a mature and self-directed professional in the area of public health.

Detailed requirements can be obtained from the department.

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. More recent topics now addressed by epidemiologic studies also include behavioral risk factors for disease, clinical trials and assessing the quality of health care. The content, methods, and scientific inference in the major epidemiologic issues of today are examined in this program.

Biostatistics involves the application of statistical techniques to scientific research in health related fields, including medicine, biology and public health. Biostatisticians have essential roles in designing studies and analyzing data from research problems as diverse as the study of new drugs to combat AIDS, evaluation of interventions aimed at reducing infant mortality, determination of major risk factors for heart disease, development of psychiatric symptoms and drug and alcohol use in teenagers, and the reduction in mortality in child trauma centers.

Master's Degree Programs

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 in epidemiology is designed for health professionals who wish to acquire a broad understanding of public health with an emphasis upon epidemiologic methods.

Additional Admission Requirements

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) PHC 6007 (3) or PHC 6008 (3)
- Approved Electives (7 hours)
- Special Project (3 hours)
- Field Experience (if applicable) (1-12 hours)
- Comprehensive Examination
- Total Hours (37-52 hours)

The MSPH program in Epidemiology is designed for students who are primarily interested in developing research careers in epidemiology or biostatistics. Application to the MSPH program is strongly encouraged for students who lack prior training in a health profession. Students in the MSPH program must fulfill the following requirements:

- College of Public Health Core Courses (9 hours)
- Concentration Area (24 hours)
- Master's Thesis (Minimum of 6 hours)
- Comprehensive Examination
- Final Defense

Course requirements for students in the Epidemiology MSPH program are based on the student's area of interest (e.g. cardiovascular diseases, cancer, infectious diseases, biostatistics). 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.

MPH in Biostatistics

Graduates of the MPH in Biostatistics program should have a solid understanding of basic statistical theory, be able to apply frequently used biostatistical techniques with competence, possess strong computing skills to organize and manage complex datasets, and be an effective collaborator in health related studies. The primary employment opportunities are to serve as data analysts and data managers in a private or public health related field, particularly in public health, biomedical or pharmaceutical settings.

Prerequisite Training

The college-wide requirement for the MPH and undergraduate courses in calculus.

Program Requirements

- College of Public Health core courses (15 hours)
- Concentration area (18 hours plus 3 additional hours in Epidemiology)
 - PHC 6051 (3) PHC 6700 (3) PHC 6053 (3)
 - PHC 6xxx Computer Applications for Health Researchers I (3)
 - PHC 6xxx Computer Methods II (3)
 - PHC 6xxx Biostatistics Theory and Methods I (3)
 - PHC 6xxx Survival Analysis (3)
- Special Project (PHC 6977) (3)
- Field Experience (if applicable) (1-12)
- Comprehensive Examination
- Total Hours (39-51)

MSPH in Biostatistics

The MSPH in Biostatistics involves the application of statistical techniques to scientific research in health related fields, including medicine, biology, and public health. From the beginning of this century, the field of biostatistics has become an indispensable tool in improving health and reducing illness. Biostatisticians play essential roles in designing studies and analyzing data from research problems as diverse as the testing of new drugs to combat

AIDS, the evaluation of interventions to reduce infant mortality, the determination of major risk factors for heart disease, the development of psychiatric symptoms and drug and alcohol use in teenagers, and the reduction in mortality in child trauma centers. The MSPH program trains students to design studies, manage data collection and processing, and analyze datasets all within a context of health science research.

Prerequisite Training

The MSPH program in biostatistics includes courses in both applied and theoretical statistics and probability as well as courses covering computer techniques in exploratory and graphical methods, confirmatory statistical analysis, and data management and study design. Students interested in biostatistics should have very strong undergraduate training in mathematics, computing and biology or other laboratory science. Undergraduate courses in advanced calculus and linear algebra are highly recommended. Additionally, students should have had prior computing experience. Students without this mathematics or computer background will be expected to master this material prior to entering the degree program or during their first year of graduate work.

Program Requirements

Students who have limited medical or biology background are urged to take either Survey of Human Disease or Pathobiology of specific diseases. The standard MSPH program usually involve two full years of coursework and thesis.

College of Public Health core courses (9)

PHC 6000 (3) PHC 6050 (3) One additional core (3)

Typical program:

PHC 6xxx Biostatistical Theory and Methods I (3)

PHC 6xxx Biostatistical Theory and Methods II (3)

PHC 6xxx Survival Analysis (3)

PHC 6700

PHC 6053

PHC 6xxx Biostatistics Inference (3)

PHC 6xxx Generalized Linear Models (3)

PHC 7017 (3)

Thesis (6)

Field Experience (if applicable) (1-12)

Approved Electives

Comprehensive Examination

Total Required hours (40-52)

Ph.D. Program in Epidemiology

This program is designed for a wide variety of health care professionals and scientists.

Additional Admission Requirements

Deadline for application into the Epidemiology doctoral program for the Fall semester is March 1. Selection of students is on a competitive basis and correspondence with faculty research interest.

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 one additional required core course outside the Department in addition to doctoral coursework:

Program Requirements

Doctoral Coursework (30-45 hours, depending on background)

Dissertation (18 hours)

Evidence of Teaching Proficiency

Oral and Written Qualifying Examinations

Final Defense

The 18 hours for the dissertation reflects minimum requirements; most students are expected to take 1-3 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.

NOTE: Knowledge of college level algebra is required for elementary biostatistics courses; advanced biostatistics courses require knowledge of calculus and linear algebra.

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 (Ph.D.), to successfully develop, administer, and evaluate environmental health programs. Students also must be made cognizant of both new and existing regulations which affect the field at local, state, and national levels.

Students seeking an MSPH specialize in any of the environmental and occupational health areas with an intense research and technical program of study. Individualized courses of study are determined for students with the cooperation of an advisory committee. For the MSPH a thesis is required in addition to the Comprehensive Examination.

Prospective students seeking 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.

Dual Degree Program (M.S./M.P.H) In Occupational Health Nursing: See College of Nursing for description of program.

Certificate of Concentration in Solid and Hazardous Waste Management: See College of Engineering.

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.

Program Requirements

MPH students are expected to complete the following minimum requirements:

College of Public Health Core Courses (15 hours)			
Environmental Health Concentration Area (14 hours)			
PHC 6301 (3)	PHC 6310 (3)	PHC 6303 (3)	PHC 6512 (3)
PHC 6356 (2)			
Approved Electives (5 hours)			
Special Project (3 hours)			
Seminar (1 hour)			
Field Experience (if applicable) (1-12 hours)			
Comprehensive Examination			
Total Hours (39-51)			

MSPH students must complete 9 hours of approved college core, 24 hours in selected areas, a thesis, and the Comprehensive Examination.

Toxicology

The objectives 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.

Employment opportunities for 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.

Program Requirements

MPH students are expected to complete the following minimum requirements:

College of Public Health Core Courses (15 hours)

Toxicology Concentration area (15 hours)

HSC 6556 (3) PHC 6511 (3) PHC 6310 (3) BCH 5045 (3) or equivalent

PHC 6934 (3)

Approved Electives (5 hours)

Special Project (3 hours)

Seminar (1 hour)

Field Experience (if applicable) (1-12 hours)

Comprehensive Examination

Total Hours (39-51)

MSPH students must complete 9 hours of approved college core, 24 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.

Preference for admission will be given to students with a background or demonstrated skills in the biological sciences.

Program Requirements

MPH students are expected to complete the following minimum requirements:

College of Public Health Core Courses (15 hours)

Tropical Public Health/Communicable Disease 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

Total Hours (39-51)

MSPH students must complete 9 hours of approved College core, 24 hours in selected areas, a thesis, and the Comprehensive Examination.

Industrial Hygiene and Safety Management

The Industrial Hygiene and Safety Management concentration plays a critical role in efforts to confront the state's serious industrial hazard problems. Study is in the areas of industrial health hazards, safety management, legal and regulatory considerations, and program evaluations.

Program Requirements

Coursework in the Industrial Hygiene/Safety Management concentration for the MPH and MSPH is being updated to meet the changing needs of professionals in these areas. These programs will include the following proposed coursework:

MPH Concentration

College Core Courses (15)

Concentration Area Courses (12)

PHC 6310 (3) PHC 6356 (2) PHC 6360 (2) PHC 6361 (2) PHC 6425 (3)

Electives (8)

PHC 6303 (3) PHC 6306 (2) PHC 6350 (3) PHC 6355 (3)

PHC 6358C (2) PHC 6362 (2) PHC 6363 (2) PHC 6364 (2)

PHC 6365 (2) PHC 6366 (2) PHC 6934 (3)(Indoor Air Quality)

Other approved electives from the Department of Health Policy and Management, Community and Family Health, Industrial Engineering, or the College of Business may be selected.

Special Project PHC 6977 (3)
Seminar PHC 6930 (1)
Comprehensive Examination
Total Hours (39)

MSPH Concentration

College Core Courses (9)
Concentration Area Courses - Required (21)
PHC 6310 (3) PHC 6356 (2) PHC 6358C (2) PHC 6360 (2)
PHC 6361 (2) PHC 6362 (2) PHC 6363 (2) PHC 6365 (2)
PHC 6366 (2) PHC 6934 (2)
Electives (4)
PHC 6303 (3) PHC 6306 (2) PHC 6350 (3) PHC 6355 (3)
PHC 6364 (2) PHC 6934 (3)
Thesis (6)
Seminar (1)
Comprehensive Examination
Total Hours (41 +)

Occupational Health for Health Professionals

The MPH in Occupational Health for Health Professionals is intended for physicians and nurses interested in careers 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.

Program Requirements

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)
Public Health Seminar 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 PHC 6977 (3 hours)
Field Experience (if applicable) (1-12 hours)
Comprehensive Examination
Total Hours (40-52)

Occupational Medicine Residency (MPH)

The College of Public Health, in collaboration with the College of Medicine, offers an MPH program to select residents in Occupational Medicine. The physicians who are chosen for the Occupational Residency program in the College of Medicine (at present two per

year) are also expected to complete the MPH Occupational Health program designed for health professionals.

Ph.D. in Environmental and Occupation Health

Specific information concerning the doctoral program can be obtained from the College of Public Health Office of Academics, 974-6665.

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 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 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.

Master of Public Health (MPH)

Health Care Organizations and Management

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.

Program Requirements

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 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, plus 6 hours of approved electives:

HMP/PHC 6160 (3)

HMP/PHC 6181 (3)

HPM/PHC 6191 (3)

HPM/HSA 6196 (3)

Special Project PHC 6977 (3)

Field Experience PCH 6945 (1-12 hours)

Comprehensive Examination

Total Hours (39-51)

Health Policies and Programs

This area is designed to provide 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.

Program Requirements

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 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) Choose 3 of the following, plus 6 hours of approved electives.
- HPM/PHC 6150 (3) HPM/PHC 6191 (3) HPM/PHC 6760 (3)
- PHC 6xxx (Health Law and Regulation)
- Special Project (as needed) (3 hours)
- Field Experience (as needed) (1-12 hours)
- Comprehensive Examination
- Total Hours (39-51)**

International Health Management

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 the principles and techniques of the health policy and management disciplines relevant to any geographic area and the cultural, socioeconomic and technological conditions of foreign nations, especially in Third World nations, that mediate the character and scope of needed health policies and management practices.

Program Requirements

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)
- International Health Management Track (15 hours) Take 3 of the following, plus 6 hours of approved electives)
- HPM/PHC 6110 (3) HPM/PHC 6111 (3) HPM/PHC 6146 (3)
- Special Project (as needed) (3 hours)
- Field Experience (if applicable) (1-12 hours)
- Comprehensive Examination
- Total Hours (39-51)**

Master of Science in Public Health (MSPH)

Students who plan to focus primarily in research may select the Master of Science in Public Health in any of the above three tracks in the Department of Health Policy and Management.

Program Requirements

- College Core Courses (9)
- Selected Courses (24)
- Thesis (6)
- Comprehensive Examination
- Total Hours (40+)**

Master of Health Administration (MHA)

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.

Program Requirements

Finance and Economics (15 hours)

PHC 6160 (3)	PHC 6161 (3)	PHC 6430 (3)	PHC 6433 (3)
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Approved Electives (3)

Management Concepts and Policy (15 hours)

PHC 6102 (3)	PHC 6180 (3)	PHC 6181 (3)	PHC 6151 (3)
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PHC 6934 (3)

Analytic Skills (15 hours)

PHC 6000 (3)	PHC 6191 (3)	HSA 6196 (3)	PHC 6050 (3)
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Approved Elective (3)

Supervised Field Experience PHC 6945 (0-12 hours)

Comprehensive Examination

Total Hours (45-57)

Ph.D. in Health Policy and Management

Specific information concerning the doctoral program in the Department of Health Policy and Management can be obtained from the College's Office of Academics, 974-6665.

COURSE DESCRIPTIONS

Courses offered for credit by the University of South Florida are listed in 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:

G	Graduate
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

Course Level Definitions:

5000 - 5999	Senior/Graduate Level
6000 - Up	Graduate Level

The University reserves the right to substitute, not offer, or add courses that are listed in this catalog.

ARCHITECTURE PROGRAM

Program Director and Dean: A. Ratensky; *Professors:* D.A. Crane, A. Ratensky; S.A. Zylstra; *Associate Professors:* J.A. Moore, D.S. Powers; *Assistant Professors:* S.A. Cooke; T.T. Green; *Eminent Scholars:* J. Barnett, R. Campbell.

ARC 5175 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. (PR: Intro Computers, ARC 5360, CC)

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 the process, and in the various academic courses that prepare the architect for practice. (PR: CC)

ARC 5256 DESIGN METHODS (3) Survey of major schools of thought in design theory, methods of design and problem-solving, and design research. The nature of the design activity and its recurring difficulties. The nature and different types of problems. 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 5360, CC)

ARC 5361 ARCHITECTURAL DESIGN I (6) First of two semester Design Fundamentals/Design Graphics sequence focusing on design abstractions and analysis of the factors influencing conceptual design. Emphasis is placed on ordering principles, pattern recognition and utilization, and figure-ground relationships. Development of craftsmanship, drawing as a means to design, and perceptual acuity are stressed. (PR: CC)

ARC 5362 ARCHITECTURAL DESIGN II (6) Second of a two semester Design Fundamentals/Design Graphics sequence focusing on synthesis of design concepts and application of ordering principles in architectural design. Emphasis is placed on developing an understanding and awareness of architectural elements and compositions. Students examine the work of significant architects and use it as a basis for design exploration. Graphic documentation, diagraming, and model studies are stressed. (PR: ARC 5361, CC)

ARC 5363 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, meaning/imagery, and building technology (awareness of structural organization, services networks, construction processes and materials). Aspects of human behavior as design determinants. (PR: ARC 5362, ARC 5216, ARC 5467, ARC 5587, ARC 5731, ARC 5689, CC)

ARC 5364 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 5363, CC)

ARC 5365 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, including structural, circulation, service networks, space zoning and use, environmental control systems at the interface between interior and exterior of a building. Representation of these relationships and systems in diagrams and models, and their manifestation in design and construction details. (PR: ARC 5256, ARC 5364, ARC 5467, ARC 5588, ARC 5689, ARC 5782, CC)

ARC 5366 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 thinking through as well as documenting the complete building system and process. (PR: ARC 5365, CC)

ARC 5467 MATERIALS AND METHODS OF CONSTRUCTION (4) Overview of properties of primary materials and construction systems which comprise building structure and enclosure. Emphasis on interface and connection of elements and assemblies, relative to climate, assembly processes, costs, codes, and craftsmanship. Lab sessions include field trips to manufacturing facilities, construction sites, and preparation of drawings and models of assemblies. (PR: ARC 5470, CC)

ARC 5470 INTRODUCTION TO TECHNOLOGY (3) Introduction to architectural technology, including structures, materials and methods of construction, and environmental controls. Overview of building systems and components and their integration into architectural design projects.

ARC 5587 STRUCTURES I (3) Review of static and mechanical principles of materials. Analysis and evaluation for appropriate selection of structural systems and elements. Analysis and design of timber and steel structures, based on moment, shear, and deflection. Fundamentals of wind and seismic design as they apply to wood and steel construction. Truss analysis, beam and column behavior. (PR: Calculus, Physics, and ARC 5760, CC)

ARC 5588 STRUCTURES II (3) Introduction to the concepts and theories of structural analysis and design of reinforced concrete systems and elements, including practical application in building construction. Prestressing, post-tensioning, hybrid assemblies. Fundamentals of wind and seismic design. Formwork, placement, and assembly techniques. (PR: ARC 5587, CC)

ARC 5689 ENVIRONMENTAL TECHNOLOGY (4) Comprehensive review of mechanical, electrical, and plumbing systems for buildings. Energy utilization, heating and cooling, water delivery and waste removal, fire protection, illumination, transportation systems, and acoustics. Lab exercises include computer simulations, illumination studies, thermal performance studies. (PR: Physics, ARC 5470, CC)

ARC 5731 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 5732 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 ARCHITECTURE HISTORY (3) Exploration of the philosophic, economic, aesthetic, social, historical and moral imperatives used by modern architects and historians in their attempt to design the appropriate physical environment for a new social order. The course will investigate the writings and works of the proponents of the modern style of architecture and study the "New Architecture" as defined by those who broke tradition and expressed the new era using modern construction materials and techniques. (CC, CI)

ARC 5793 HISTORY ABROAD (3) Summer study abroad. Location and description varies from year to year. (PR: CC)

ARC 5920 ARCHITECTURAL DESIGN STUDIO ABROAD (5) Summer study abroad. Location and description varies from year to year. (PR: CC)

ARC 5931 SPECIAL STUDIES IN ARCHITECTURE (1-5) Variable titles offered on topics of special interest. Repeatable with different subject matter. (PR: CC)

ARC 6176 ADVANCED COMPUTER TECHNOLOGY (3) Elective course dealing with further development of CAD skills, focusing on three-dimensional modeling. A wide range of software programs is included which explores painting and shading, surface textures, 3D detail studies, perspectives, and oblique representations. (PR: ARC 5175, CC)

ARC 6287 PROFESSIONAL PRACTICE I (3) Introduction and overview of professional practice, emphasizing business, organization, management, and marketing. Legal, economic, and ethical aspects of project procurement, design services, and delivery. Contracts, owner-contractor-architect roles and responsibilities. (PR: ARC 5216, ARC 5364, CC)

ARC 6288 PROFESSIONAL PRACTICE II (3) Continued overview of professional practice, emphasizing legal, economic, and ethical aspects of practice. Project planning, funding, administration, risk management, and performance. Topics include: estimating, financing, life-cycle cost analysis, information resources and management. (PR: ARC 6287, CC)

ARC 6397 INTRODUCTION TO URBAN DESIGN THEORY, METHODS & PROCESSES (3) Introduction to the concepts, methods, and manifestations of urban design and city-building. Focus on both traditional city and modern city conditions. Student will gain a basic understanding of the design structure, order, function and character of cities and towns and assess various qualitative aspects of these conditions. Relationships between processes of architecture, landscape architecture, site planning, preservation and other relevant acts of city-building will be considered as referential points-of view in assessing certain complexities of urban morphology. (PR: CC)

ARC 6471 ADVANCED TOPICS IN MATERIALS AND METHODS (3) Analysis and design of advanced construction assemblies. Specific focus on application and integration of multiple systems and components. Research in new materials and methods. Documentation and model and analysis. (PR: ARC 5175, 5587, and 5588, CC)

ARC 6481 DESIGN DEVELOPMENT (4) Summary course in the technology sequence in which construction, structural, and environmental technology systems are integrated within architectural design projects. Emphasis is placed on the poetic as well as the technical aspects of building systems. (PR: ARC 5470, 5587, 5588, 5467, 5689, and a minimum of one of ARC 6692, 6471, or 6596, CC)

ARC 6596 ADVANCED TOPICS IN STRUCTURES (3) Analysis and design of advanced structures; specific focus on architectural applications; integration with electro-mechanical systems. Research of special aspects of structure, computer simulation, and/or preparation of structural models. (PR: ARC 5175, 5587, 5588, CC)

ARC 6692 ADVANCED TOPICS IN ENVIRONMENTAL TECHNOLOGY (3) Analysis and preliminary design of advanced environmental control systems; specific focus on architectural applications; integration with structural and construction systems. Research of special aspects of ET systems, computer simulation and analysis techniques. (PR: ARC 5175, 5689, CC)

ARC 6942 URBAN DESIGN PRACTICUM (3-6) "Hands-on" experience in both theoretical and practical aspects of actual projects on-going at the Florida Center for Urban Design and Research.

ARC 6971 MASTER'S PROJECT (2-6) The Master's Thesis represents the most significant project in the student's academic preparation for a career in architecture, and the demonstration of the student's ability to synthesize learned skills into a convincing independent work of professional quality. The Master's Thesis will typically be a major design project, although the format of a more traditionally academic thesis is also possible. In either case, the student will work with a committee composed of advisors of his/her choice in selecting the topic of the project, organizing and carrying out the work in an independent and self-paced manner. The outcome should be an original project which demonstrates the student's academic and professional competence according to the state of the art. (PR: ARC 6974, CC)

ARC 6974 MASTER'S PROJECT PLANNING (2) The Master's Project (ARC 6971) will call for the student's independent selection, organization, programming and design of a complex project. This course aims at preparing students for these tasks by exploring potential topics for master's projects and theses, introducing the concepts of architectural facility programming, methods of gathering, organization, analysis and evaluation of information needed for the project, and by studying the process of writing proposals for the master's project that clearly communicate the problem or task, goals and objectives, the proposed approach and procedure, the expected outcome, as well as the work plan and schedule for such a project and the time and resources required. At the end of the course, students will have prepared an acceptable master's project proposal which will allow them to proceed with the master's project during the following term. (PR: ARC 5366, CC)

COLLEGE OF ARTS AND SCIENCES

AMERICAN STUDIES

See Humanities/American Studies

ANTHROPOLOGY

Chairperson: S.D. Greenbaum; *Professors:* M.V. Angrosino, G. Kushner, L.M. Whiteford, C.W. Wienker, J.R. Williams, A.W. Wolfe; *Associate Professors:* R.D. Baer, S.D. Greenbaum, L. Madrigal, T. Purcell, J.J. Smith, P.P. Waterman, N.M. White; *Assistant Professor:* C.G.T. Ho, B. Weisman, K. Yelvington; *Other Faculty:* K. Borman, C. Bryant, A. Chairidakis, 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. An advanced critical survey of archaeology emphasizing contributions to applied anthropology. (PR: GS in Anthropology)

ANT 6196 ARCHAEOLOGY THEORY AND CURRENT ISSUES (3) Methodology and theory in archaeology, analysis, interpretation of data. (PR: GS in Anthropology)

ANT 6197 CULTURAL RESOURCE MANAGEMENT (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 METHODS OF 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 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 advanced survey of Cultural Anthropology emphasizing contributions to Applied Anthropology. (PR: GS in Anthropology)

ANT 6573 REGIONAL PROBLEMS IN MEDICAL ANTHROPOLOGY (3) Contemporary problems in Medical Anthropology in the context of a specific region. Rpt. to 6 hours as topics vary. Open to non-majors. (PR: GS)

ANT 6588 SEMINAR IN PHYSICAL ANTHROPOLOGY (3) One of four core courses required of all students. A critical advanced survey of Physical Anthropology emphasizing contributions to Applied Anthropology. (PR: GS in Anthropology)

ANT 6676 SEMINAR IN ANTHROPOLOGICAL LINGUISTICS (3) One of four core courses required of all students. A critical advanced survey of Anthropological Linguistics emphasizing contributions to Applied Anthropology. (PR: GS in Anthropology)

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 (1-19 Var.) Independent study in which students must have a contract with an instructor. Rpt. S/U.

ANT 6915 DIRECTED RESEARCH (INTERNSHIP) (1-19 Var.) S/U. (PR: GR. ML)

ANT 6971 THESIS: MASTER'S (1-19 Var.) Rpt.

ANT 7703 HISTORY AND THEORY OF APPLIED ANTHROPOLOGY (3) 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. (PR: CI)

ANT 7704 LEGAL AND ETHICAL ASPECTS OF APPLIED ANTHROPOLOGY (3) 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: CI)

ANT 7760 RESEARCH METHODS IN APPLIED ANTHROPOLOGY (3) 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: CI)

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: CI)

ANT 7912 DIRECTED RESEARCH (1-15) An advanced directed research program in a selected topic of Applied Anthropology under the supervision of an anthropology faculty member. Rpt. S/U. (PR: CI)

ANT 7932 PRINCIPLES OF HUMAN SOCIAL ORGANIZATION (3) A critical cross-cultural examination of principles that underlie the organization of human associations such as kinship, residence, ethnicity, reciprocity, hierarchy, stratification at levels from domestic to multinational organization. (PR: CI)

ANT 7933 SELECTED TOPICS IN APPLIED ANTHROPOLOGY (3) 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: CI)

ANT 7934 THE CLIENTELE OF APPLIED ANTHROPOLOGY (3) 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: CI)

ANT 7936 APPLIED ANTHROPOLOGY AND HUMAN PROBLEMS (3) 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: CI)

ANT 7945 DOCTORAL INTERNSHIP IN APPLIED ANTHROPOLOGY (1-15 Var.) 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 advisor, and the agency supervisor prior to registration. Rpt. S/U. (PR: Admission to Doctoral Candidacy, CI)

ANT 7980 DISSERTATION: DOCTORAL (1-15 Var.) (PR: Admission to Candidacy)

ASTRONOMY

AST 5506 INTRODUCTION TO CELESTIAL MECHANICS (3) PR: MAC 3413 and some knowledge of differential equations, or CI. The two-body problem, introduction to Hamiltonian systems and canonical variables, equilibrium solutions and stability, elements of perturbation theory.

AST 5932 SELECTED TOPICS IN ASTRONOMY (1-5) PR: Senior or advanced junior standing or CI. Intensive coverage of special topics to suit needs of advanced students.

BIOLOGY

Chairperson: J.T. Romeo; *Distinguished Research Professors:* C.J. Dawes, G.E. Woolfenden, *Professors:* M.R. Alvarez, S.S. Bell, B.C. Cowell, F.E. Friedl, G.W. Hinsch, J.M. Lawrence, D.V. Lim, R.L. Mansell, E.D. McCoy, H.R. Mushinsky, J.T. Romeo, J.L. Simon, D. TeStrake, R.P. Wunderlin; *Associate Professors:* G.W. Arendash, B.J. Cochrane, M.L. Dao, F.B. Essig, P.J. Motta, M.J. Saunders; *Assistant Professors:* D.D. Dunigan, S.C. Edwards, K. Gray, S.A. Karl, M.B. Rogers, P.D. Stiling.

Please see additional listings under Botany, Microbiology, and Zoology.

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 (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CI)

BSC 6910 DIRECTED RESEARCH (1-19 Var.) ML. Rpt. S/U. (PR: CI)

BSC 6930 LECTURES IN CONTEMPORARY BIOLOGY (1) This Biology lecture series includes a diversity of contemporary topics including: molecular regulatory mechanics, evolutionary genetics, organismal physiology and community ecology. S/U only. (PR: CC)

BSC 6931 DEVELOPMENT AND PHYSIOLOGY SEMINAR (1) A critical examination and discussion of current literature of physiology and development of living organism, including cells.

BSC 6932 SELECTED TOPICS IN BIOLOGY (1-4) (PR: CI)

BSC 6935 GRADUATE SEMINAR IN BIOLOGY (1) S/U. (PR: CI)

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: CI)

BSC 7912 DIRECTED RESEARCH (1-19 Var.) Ph.D. level. Rpt. S/U. (PR: CI)

BSC 7980 DISSERTATION: DOCTORAL (1-19 Var.) (PR: CI)

PCB 5115C CYTOGENETICS (3) Survey of the structure and function of cytoplasmic and nuclear components of plant and animal cells. Lec/Lab. (PR: PCB 3023C)

PCB 5235 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 3030)

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. (PR: PCB 4043C or PCB 4674)

PCB 5525 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 5615C 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 5835 NEUROPHYSIOLOGY (3) A comparative analysis of the physiochemical basis and evolution of nervous systems and sensory mechanisms. (PR: PCB 3023C)

PCB 5845C PRINCIPLES OF NEUROSCIENCE (4) Study of the mammalian brain's structure and function, with an emphasis on the neuroanatomy, neuropharmacology, and neurophysiology 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 6107 ADVANCED CELL BIOLOGY (4) Detailed examination of the structure, function and molecular biology of eukaryotic cells. (PR: CI)

PCB 6176C BIOLOGICAL ELECTRON MICROSCOPY (5) Discussion of theory and techniques in electron microscopy. Emphasis on preparation of biological microscope. Lec/Lab. (PR: PCB 3023C and CI)

PCB 6205 CELL SIGNALING (3) A detailed examination of the cellular, biochemical, and molecular mechanism involved in signal transduction in various eucaryotic organisms with emphasis on reviewing recent experimental evidence. (PR: PCB 3023, BCH 3023, or CI)

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, 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 6447 COMMUNITY ECOLOGY (3) In-depth examination of community ecology with emphasis on diversity, stability, trophic structure and the mechanisms which affect how communities are structured. (PR: CI)

PCB 6456C BIOMETRY (4) 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 3233 and MAC 3234)

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)

PCB 6933 SEMINAR IN ECOLOGY (1-3) A detailed examination of topics in ecology pertaining to individual organisms, populations, communities and/or ecosystems. This course may be repeated. (PR: CI)

BOTANY

See offerings under Biology.

BOT 5185C MARINE BOTANY (4) 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: PCB 4043C)

BOT 6725C EVOLUTION OF FLOWERING PLANTS (3) A study of the evolution and phylogeny of the Angiosperms; the origin and nature of early angiosperms, "primitive" angiosperms today; evolutionary processes leading to the origin of genera, families and orders, trends of specialization in the angiosperms; phylogenetic analysis, cladistics, traditional approaches, new approaches; readings from the current and historical literature. Lec/Lab. (PR: POT 3373C, BOT 4713C)

BOT 6916 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: CI)

BOT 6971 THESIS: MASTER'S (1-19 Var.) Rpt. (PR: CI)

CHEMISTRY

Chairperson: J.C. Davis, Jr.; *Associate Chairpersons:* G. R. Jurch, Jr., D.F. Martin; *Assistant Chairperson:* A. Zektzer; *Distinguished Research Professors:* G.R. Newkome, B. Stevens; *Distinguished Service Professor:* D.F. Martin; *Professors:* J.S. Binford, Jr., R.S. Brame, J.C. Davis, Jr., S.H. Grossman, M.D. Johnston, Jr., G.R. Jurch, Jr., L. Mandell, R.M. O'Malley, T.C. Owen, J.H. Worrell; *Associate Professors:* R.L. Potter, J.A. Stanko, J.E. Weinzierl, G.R. Wenzinger; *Assistant Professors:* L. Caracci, J.P. Harmon, A. Malik, L.-J. Ming, J. Robert.

BCH 5045 BIOCHEMISTRY CORE COURSE (3) A survey course for graduate students in Chemistry, Biology, and other appropriate fields. 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: BIO-ORGANIC 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. S/U (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 and 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 the 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: CI)

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 CI)

CHM 6907 INDEPENDENT STUDY (1-19 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: CI)

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 (1-19 Var.) Rpt. S/U. (PR: GR. M.L.)

CHM 6973 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. M.L.)

CHM 7820 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. Ph.D. level)

CHM 7980 DISSERTATION: DOCTORAL (1-19 Var.) S/U (PR: Admission to Candidacy)

CLASSICS

See Languages and Linguistics

COMMUNICATION

Chairperson: A.P. Bochner; *Professors:* A.P. Bochner, K.N. Cissna, E.M. Eisenberg, L.S. Pettegrew, R.J. Schneider; *Associate Professors:* B.F. Downs, C.J. Jablonski, N.C. James, D. Payne, M.L. Vanderford; *Assistant Professors:* E. Bell, M. Neumann, G. Rodman.

COM 5930 TOPICS IN COMMUNICATION STUDIES (3) Topical issues in communication. Rpt. up to 12 hours as topics vary.

COM 6001 GRADUATE STUDY IN COMMUNICATION (3) Required of all M.A. candidates. 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 6025 HEALTH COMMUNICATION (3) Application of communication theory and research to the health context including provider-patient communication, health information campaigns, and health beliefs and behavior. Special attention to the value issues in health communication. (PR: GS)

COM 6121 ORGANIZATIONAL COMMUNICATION (3) A study of communication theory and behavior within organizational settings: role of communication, communication climates, communication networks, leadership.

COM 6345 CONTEMPORARY CULTURAL STUDIES (3) Examines theoretical issues and interpretive approaches for exploring questions of knowledge, identity, experience, meaning and value in modern culture through the study of communication. (PR: GS)

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)

COM 6605 MEDIA STUDIES (3) Study of the impact of mass and mediated forms of communication on individuals, groups, societies, and cultures. Several theoretical and critical perspectives are considered. (PR: GS)

COM 7325 SEMINAR IN COMMUNICATION RESEARCH METHODS (3) Emphasis on quantitative, qualitative, and historical-critical approaches to communication research. Rpt. up to 12 hours as topics change. (PR: GS)

COM 7933 SEMINAR IN COMMUNICATION STUDIES (3) Variable topics course. Rpt. up to 12 hours as topics change. (PR: GS)

ORI 5930 TOPICS IN PERFORMANCE GENRES (3) Variable topics course. Rpt. up to 12 hours as topics change.

ORI 6435 PERFORMANCE AS CULTURAL STUDY (3) Impact of performance and performance forms as cultural communication. The course examines literary, festive, religious, political and social performance in dialogue with culture. (PR: GS)

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.

ORI 7930 SEMINAR IN PERFORMANCE STUDIES (3) Variable topics course. Rpt. up to 12 hours as topics change. (PR: GS)

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 5238 TOPICS IN RHETORICAL ANALYSIS (3) Introduces a variety of critical perspectives applied to rhetoric in specialized contexts. Topics vary depending upon interest of students and faculty. Rpt. up to 12 hours.

SPC 5930 TOPICS IN DISCOURSE (3) Variable topics course. Rpt. up to 12 hours.

SPC 6231 SURVEY OF 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 6236 CONTEMPORARY RHETORICAL THEORY (3) Basic texts in 20th century rhetorical theory. Readings may vary. (PR: GS)

SPC 6391 INTERPERSONAL COMMUNICATION (3) Study of theory and research related to interpersonal communication.

SPC 6545 PERSUASION (3) Study of contemporary theories and research in persuasion.

SPC 6645 RHETORIC IN SOCIETY (3) Examination of ways in which rhetoric reflects and molds social processes, including social integration and/or alienation; social roles and identity construction; institutions and movements; ideology and social change. (PR: GS)

SPC 6682 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) (PR: CC)

SPC 6913 DIRECTED RESEARCH (1-19) Rpt. S/U. (PR: ML, CC)

SPC 6934 SELECTED TOPICS IN COMMUNICATION (1-4)

SPC 6935 PRO SEMINAR IN COMMUNICATION (1-3) Reading and discussion of current books, articles, and papers in communication theory and research. May be repeated for credit with different subject matter. (PR: GS)

SPC 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U. (PR: CC)

SPC 7900 DOCTORAL RESEARCH TUTORIAL (1-3) Advanced directed research. (PR: Admitted to doctoral program)

SPC 7920 COMMUNICATION COLLOQUIUM (1-3) Reading and discussion of current books, articles and papers in communication theory and research and presentation of students' research and writing for critical discussion. (PR: Admission to doctoral program)

SPC 7930 SEMINAR IN RHETORICAL STUDIES (3) Variable topics course. Rpt. up to 12 hours. (PR: GS)

SPC 7980 DISSERTATION: DOCTORAL (1-19 Var.) Rpt. (PR: Admission to candidacy)

COMMUNICATION SCIENCES AND DISORDERS

Chairperson: A.M. Guilford; *Distinguished Professor:* S.O. Richardson; *Professors:* A.M. Guilford, J.F. Scheuerle, D.C. Shepherd, E.R. Silliman, W. Strange; *Associate Professors:* J.B. Crittenden, T. Chisolm; *Assistant Professors:* R. Huntley Bahr, L. Mack; *Instructors:* P. Blake-Rahter, N. Barbara, W.T. Collins, S. Diehl, N. Diss, C. Fernandez, C. Ford, S. Graham, E. Haseman, V. Laughlin, K. Lucas, K. Richardson, M. Witkind; *Lecturer Emeritus:* E.A. Lee Kasan; *Other Faculty:* J. Becker, J. Jenkins, B. Loeding.

SPA 5132 AUDIOLOGY INSTRUMENTATION (2) Calibration, usage, and specific applications of specialized instruments available for dealing with the identification and measurement of hearing disorders. (PR: CI)

SPA 5150 ADVANCED SPEECH SCIENCE (3) Advanced study of the acoustics, production, and perception of normal and disordered speech. (PR: SPA 3011 or equiv., CC)

SPA 5150L SPEECH SCIENCE INSTRUMENTATION (2) May be taken with SPA 5150 or independently. Laboratory exercises in the use of audio recording, acoustic analysis and synthesis instrumentation. (PR: SPA 3117 or equiv., CC)

SPA 5303 ADVANCED: 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 audiologic measurement paradigms. (PR: CC)

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 5328 AURAL REHABILITATION: ADULTS (3) This course is designed to provide information about and strategies for aural rehabilitation intervention with hearing-impaired adults. Topics covered include: speech reading, auditory training, hearing and assistive listening devices. (PR: CC)

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 5408 LANGUAGE-LEARNING IN THE SCHOOL-AGE YEARS (3) Metalinguistic and metacognitive development are linked to the interactional demands of classroom and clinical discourse; observational tools are applied to evaluation and intervention planning. (PR: CC)

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 DIAGNOSTIC PRINCIPLES AND PRACTICES (2) 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 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: CI)

SPA 6232 NEUROMOTOR COMMUNICATION DISORDERS (3) A study of the medical, physical, occupational, speech, language, and hearing problems of the neuro-motorically impaired client. Therapy techniques are reviewed and evaluated. (PR: CI)

SPA 6245 CRANIOFACIAL COMMUNICATION DISORDERS (3) An indepth study of speech, language, and hearing problems associated with cleft lip and cleft palate and other craniofacial dysmorphologies. Consideration is given to the 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, CC)

SPA 6314 ELECTROPHYSIOLOGIC AUDIOLOGY: EVOKED POTENTIALS (3) Theories and clinical methods of using auditory evoked potentials to assess the neural integrity of the brainstem, gain estimates of auditory sensitivity and explore cognitive behaviors. (PR: SPA 5303 and SPA 5312 or CI)

SPA 6316 ELECTROPHYSIOLOGIC AUDIOLOGY: ELECTRONYSTAGMOGRAPHY (ENG) (3) Principles and clinical practices of assessing the peripheral and central components of the human vestibular system using electrical recordings of induced and spontaneous nystagmus. (PR: SPA 5303 and SPA 5312 or CI)

SPA 6322 AURAL REHABILITATION: CHILDREN (3) Provide information and strategies for aural habilitation intervention with hearing impaired children. Includes techniques of speechreading, auditory training, and language for hearing impaired. (PR: CI)

SPA 6326 CURRICULUM 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. (PR: CC)

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. (PR: CC)

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 4382 or equivalent and CI)

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: CI)

SPA 6410 APHASIA AND RELATED DISORDERS (3) A consideration of the neurological and psychological aspects of aphasia and related disorders as they relate to communication disorders. Specific language therapy approaches are discussed and evaluated. (PR: CI)

SPA 6413 AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (3) This course details the indepth assessment and treatment of non-speaking individuals. Students will be presented with the variety of aided and unaided systems which exist for helping non-speaking persons; students gain experience in the use of these devices. (PR: CC)

SPA 6415 NEUROLINGUISTIC THEORIES OF LANGUAGE (3) Neurolinguistic theories as appropriate to the discipline are presented and discussed in relationship to language development and disorders. Information from linguistics, psycho-linguistics, artificial intelligence, neuroanatomy, and other sciences are applied to Language Science. (PR: CI)

SPA 6421 LANGUAGE FOR THE HEARING IMPAIRED (3) Techniques and materials of teaching language to children with auditory disorders as well as evaluation and analysis of contemporary methods. (PR: SPA 3030, SPA 3310, SPA 4363, or CI)

SPA 6422 SPEECH PERCEPTION AND PRODUCTION FOR THE HEARING IMPAIRED (3) In depth study of the effects of hearing loss on speech perception and on the development of speech production skills in children. Methods for testing/training speech perception/production skills in the hearing-impaired are discussed. (PR: SPA 3310, SPA 3311 or CI)

SPA 6505 PRACTICUM (1-8) Participation in speech-language pathology and audiology practicum in the University clinical laboratory and selected field settings. (PR: CI)

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 advanced evaluation techniques not covered in SPA 5552. (PR: CI)

SPA 6601 CLINICAL PRACTICE ISSUES IN COMMUNICATION DISORDERS (1) Topics include: legal and ethical issues affecting practice, licensure, and ASHA certification, the ASHA Code of ethics, laws and regulations governing practice in health care and educational settings, quality assurance standards. (PR: CC)

SPA 6805 RESEARCH PROCEDURES IN COMMUNICATION SCIENCES AND DISORDERS (3) Advanced research and experimental design techniques employed in clinical and laboratory settings in speech-language pathology and audiology. (PR: CI)

SPA 6906 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: CC)

SPA 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML, CC)

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: CI)

SPA 6971 THESIS: MASTER'S (1-19 Var.) Rpt. (PR: CC)

SPA 7931 SEMINAR IN COMMUNICATION SCIENCES AND DISORDERS (3) Addressing the central research and clinical issues related to the diagnosis and treatment of communication disorders. (PR: CI)

CRIMINOLOGY

Chairperson: W.R. Blount; *Professors:* W.R. Blount, R. Dembo, J. Halsted, K.M. Heide, I. Silverman, M. Silverman, L. Territo; *Associate Professors:* J. Cochran, C. Greek, T. Mieczkowski, J.T. Reilly, C. Sellers, R.M. Stanford, M. Vega; *Academic Administrator:* M. Johnson; *Courtesy Appointment:* J. Feegel.

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 CI)

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. (PR: CI)

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. (PR: CI)

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. (PR: CI)

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. (PR: CI)

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. (PR: CI)

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. (PR: CI)

CCJ 6469 HUMAN RESOURCE MANAGEMENT IN LAW ENFORCEMENT (3)
This course is designed to develop a broad exposure to new approaches, techniques, and future trends in law enforcement human resource management. Some topics included will be: functions of the police personnel unit; psychological screening of police applicants; and court-mandated recruitment and employment.

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. (PR: CI)

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 (PR: CI).

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, CI)

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. (PR: CI)

CCJ 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. to a maximum of 3 hours toward the M.A. degree. S/U. (PR: CI)

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 the first semester. (PR: CI)

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 6936 CURRENT ISSUES IN LAW ENFORCEMENT (3) This course will focus on some of the most significant issues facing law enforcement agencies today. Some topics included will be: police use of deadly force; review of police conduct; police unionization; police corruption; media relations; civil liability; and community/problem-oriented policing.

CCJ 6971 THESIS: MASTER'S (1-19 Var.) Rpt. to 6 hours toward the M.A. (PR: CCJ 6707, CI)

CCJ 6974 AREA PROJECT (1-12 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)

ENGLISH

Chairperson: S. M. Deats; *Professors:* J.P.W. Rogers (DeBartolo Chair in the Liberal Arts), L.R. Broer, S.M. Deats, R.F. Dietrich, F.J. Fabry, S.R. Fiore, W. Garrett, J.S. Hatcher, E.F. Henley, D.L. Kaufmann, J.B. Moore, W.E. Morris, G.A. Olson, W.D. Reader, W.T. Ross, S.J. Rubin, W.H. Scheuerle, E.E. Smith, D.A. Wells; *Associate Professors:* R.M. Baum, A.G. Bryant, R.E. Chisnell, R.M. Figg III, R.E. Hall, M.C. Harmon, W.J. Heim, R.L. Hewitt, E.A. Metzger, J.M. Moxley, P.J. Sipiora, N.J. Tyson, R.D. Wyly, Jr.; *Assistant Professors:* V.J.G. Allen, P.J. Collins, E.A. Hirsh, D.L. Jacobs, A. Kubiak, F.T. Mason, L.L. Runge, 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. 3 times with different subject matter.

AML 6018 STUDIES IN AMERICAN LITERATURE - 1860 TO 1920 (3) Selected focused studies in American literature: Dickinson, Whitman, Twain, Howells, James, Jewett, Chopin, Crane, Dreiser, and others. Rpt. 3 times with different subject matter.

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, Pound, and Eliot. Rpt. 3 times with different subject matter.

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 5067 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)

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 (3)

Poetics, rhetoric, dramatic style, prose style, short fiction, the novel, and the essay. Rpt. 3 times with different subject matter.

ENG 6018 SCHOLARSHIP AND CRITICISM (3)

Selected focused study of research approaches to English. Rpt. 2 times with different subject matter.

ENG 6916 DIRECTED RESEARCH (1-19 Var.)

Rpt. S/U. (PR: GR. M.A. Level, CC)

ENG 6939 GRADUATE SEMINAR IN ENGLISH (3)

Rpt. 3 times with different subject matter. (PR: Consent of graduate advisor)

ENG 6971 THESIS: MASTER'S (1-19 Var.)

Rpt. S/U (PR: CC)

ENG 7916 DIRECTED RESEARCH (1-19 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 (1-19 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. 3 times with different subject matter.

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. 3 times with different subject matter.

ENL 6227 STUDIES IN SIXTEENTH-CENTURY BRITISH LITERATURE (3) Selected focused studies in sixteenth-century British literature; Shakespeare, Sidney, Spenser, Marlowe, and others. Rpt. 3 times with different subject matter.

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. 3 times with different subject matter.

ENL 6236 STUDIES IN RESTORATION AND EIGHTEENTH-CENTURY BRITISH LITERATURE (3) Selected focused studies in Restoration and Eighteenth-Century British literature: Dryden, Defoe, Pope, Swift, Fielding, Sheridan, Johnson, Boswell, and others. Rpt. 3 times with different subject matter.

ENL 6246 STUDIES OF THE ENGLISH ROMANTIC PERIOD (3) A study of pre-Romantic and Romantic prose, fiction, nonfiction, and poetry. Rpt. 3 times with different subject matter.

ENL 6256 STUDIES IN VICTORIAN LITERATURE (3) A study of Victorian poetry, fiction, non-fictional prose, and drama. Rpt. 3 times with different subject matter.

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. 3 times with different subject matter.

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 skills 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 teach college English teachers the variety and importance of literary techniques and their relevance to various subject matters.

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 lecture, seminar discussion, examinations, evaluation, conferences, directing undergraduate research, course development, use of secondary materials, publication procedure, and collation. (PR: Ph.D. Candidacy)

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. 3 times with different subject matter.

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. 3 times with different subject matter.

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; and the Nature of Myth, Allegory, and Symbolism. Other topics will be added in accordance with student demand and instructor interest.

GEOGRAPHY

Chairperson: R.T. Aangeenbrug; *Professor Emeritus:* R.H. Fuson, H.H. Neuberger, D.M. Stowers; *Professors:* R.T. Aangeenbrug, H.J. Schaleman; *Associate Professor:* R. Brinkmann; *Assistant Professors:* J.D. Althausen, K.W. Archer, J.E. Garcia, M.B. Lindberg, T.H. Newsome.

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 one or more topics from physical geography. Selected problems may include hydrology, physiography, meteorology, climatology, soils, or vegetation, etc. May be repeated once. (PR: GS in Geography or CI)

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, CI)

GEO 6908 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. S/U.

GEO 6918 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR, ML, CC)

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, CC)

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, CC)

GEO 6947 DIRECTED TEACHING (1-6 Var) (PR: GS, CI)

GEO 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U. (PR: CC)

GEOLOGY

Chairperson: M.T. Stewart; *Distinguished Research Professor:* R.A. Davis, Jr.; *Professors:* M.J. Defant, M.T. Stewart, H.L. Vacher, J.R. Wood; *Associate Professor:* L.L. Robbins; *Assistant Professors:* P. Harries, T.M. Quinn, J.G. Ryan, E.A. Snow, and C. I. Steefel.

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 outcrop description techniques are emphasized. Destination of trip varies. Trip requires camping and vigorous physical activity. Lec. Field trip.

GLY 5865 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 CI)

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 standing and CC)

GLY 6156 GEOLOGY OF NORTH AMERICA (2) Regional structure, stratigraphy, and history of North America. (PR: GS or CI)

GLY 6246 GENERAL GEOCHEMISTRY (3) Age, formation and evolution of the earth with application of basic chemical concepts and processes that govern the distribution of elements in geologic environments. (PR: One year college Chemistry, GLY 3200 or CI)

GLY 6248 SEDIMENTARY GEOCHEMISTRY (3) The geochemistry of fluid-rock interaction with emphasis on the diagenesis of sedimentary material. (PR: GLY 6246 or CI)

GLY 6285C ANALYTICAL TECHNIQUES IN GEOLOGY (3) Use and application of analytical methods including X-ray, atomic absorption, ICP/MS, TEM, SEM, and other geochemical techniques. Interpretation and statistical analysis of the data acquired. Lec/Lab. (PR: One year college Chemistry, GLY 4310 or CI)

GLY 6315C IGNEOUS AND METAMORPHIC PETROLOGY (3) Systematic study of igneous and metamorphic rocks and complexes, including origin, composition, and classification. Use of the polarizing microscope for thin section analysis is emphasized, and other methods of study are also employed. Lec/Lab. (PR: GLY 4310)

GLY 6345 SEDIMENTARY PETROGRAPHY (4) Classification, petrographic description and interpretation of sedimentary rocks including depositional environments and diagenesis. Lec/Lab.

GLY 6424 GLOBAL TECTONICS (2) Development of the global tectonic hypothesis, global tectonic theory, and application of the theory in selected regions of the earth. (PR: GS or CI)

GLY 6475 PRINCIPLES OF APPLIED GEOPHYSICS (4) Elementary treatment of gravimetric, magnetic, electric, and seismic geophysical techniques as applied to resource exploration, site investigation, and mineral deposits. Lec/Lab. Field trips. (PR: One year of Physics or CI)

GLY 6526 BIOSTRATIGRAPHY (3) Theory and practice of biostratigraphy of major microfossil groups. Emphasis on selected techniques of correlation. Detailed consideration of stratigraphic zonations, problems and limitations. Readings of current literature. (PR: OCG 6656 or equiv. or CI)

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 6575C 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 6655 PALEOBIOLOGY (3) Theory and practice of modern paleobiology including, consideration of diversity and extinction patterns, documentation and causes of trends, patterns, and causes of speciation, functional analysis and adaptation, tempo and mode in evolution, and the ecological context of evolutionary change. (PR: GLY 3610 equiv., PCB 4674 or equiv. or CI)

GLY 6659 MOLECULAR PALEONTOLOGY (3) Theory and practice of using molecules in paleontology, including historical development of the field, application of taxonomic determination, phylogenetic reconstruction, role of organic molecules in biomineralization, and amino acid racemization dating. (PR: Background in both Micro and Macro-paleontology and CI)

GLY 6739 SELECTED TOPICS IN GEOLOGY (1-4) Rpt. (PR: CI)

GLY 6827C ADVANCED HYDROGEOLOGY (4) Flow systems, analytical and numerical solutions to ground-water flow problems. Emphasis on the theoretical aspects of ground-water flow systems and their interaction with the geologic framework. Lec/Lab. Field trips. (PR: GLY 4822, one year college calculus or CI)

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 4822, GLY 6246, or CI)

GLY 6905 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CC)

GLY 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML, CC)

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 (1-19 Var.) Rpt. S/U.

GLY 7912 DIRECTED RESEARCH (1-30 Var.) Rpt. S/U (PR: GR. Ph.D. Level, Admission to Candidacy)

GLY 7980 DISSERTATION: DOCTORAL (1-19 Var.) S/U. (PR: Admission to Candidacy)

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)

GERONTOLOGY

Chairperson: W. E. Haley; *Professors:* W. E. Haley, S.V. Saxon, H.L. Sheppard; *Associate Professors:* J.L. Garcia, W.P. Mangum, L. J. Polivka, J.H. Skinner; *Courtesy Professors:* D. Cohen, J.H. Sokolovsky; *Other Faculty:* C. M. Barresi, M.C. Brooks, M.J. Etten, M. Kaplan, M. Mushel, M. O'Sullivan, G.J. Paveza, M. Thomas.

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.

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.

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.

GEY 6325 SOCIAL POLICY AND PLANNING FOR GERONTOLOGISTS (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.

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 6500 SEMINAR IN PRINCIPLES OF ADMINISTRATION (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 6600 HUMAN DEVELOPMENT AND AGING (3) Normal aging, change and basic psychological processes will be examined from a human development perspective. Emphasis will be on middle aged and older adults in relation to Life Cycle Changes and Counseling Approaches. (PR: CI)

GEY 6613 PHYSICAL CHANGE 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.

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.

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)

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.

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.

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)

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: CI)

GEY 6910 DIRECTED RESEARCH (1-4) Rpt. to 4 hours. S/U. (PR: CI)

GEY 6934 SPECIAL TOPICS IN GERONTOLOGY (3) Courses on topics such as pre-retirement, mental health, human services organization, and senior center administration. Rpt. with different subject matter to 6 hours.

GEY 6940 FIELD PLACEMENT (6) An internship in an agency or organization engaged in planning or administering programs for older people or in providing direct services to older people. S/U. (PR: CI)

GEY 6941 FIELD PLACEMENT IN MENTAL HEALTH (6) A highly structured supervised counseling experience providing mental health services to older adults. S/U. (PR: CI)

GEY 6971 THESIS: MASTER'S (1-19 Var.) Rpt. Z/U.

HISTORY

Chairperson: John M. Belohlavek; *Professors:* R.O. Arsenault, J.M. Belohlavek, C.B. Currey, R.P. Ingalls, G.H. Mayer, G.R. Mormino; *Associate Professors:* G. Benadusi, D.R. Carr, P. Dosal, G.H. Kleine, W.M. Murray, F. Ottanelli, K.A. Parker, E.M. Silbert, G.K. Tipps; *Assistant Professors:* L.F. Edwards, K. Fischer, K. Paul, W.A. Stavig, R.J. Van Neste.

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: CI)

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, CI)

HIS 6908 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: CI)

HIS 6914 DIRECTED RESEARCH (1-19 Var.) ML. Rpt. S/U. (PR: CI)

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: CI)

HIS 6939 SEMINAR IN HISTORY (4) Research in selected topics within the fields selected by the instructor. Rpt. as topics vary. (PR: CI)

HIS 6971 THESIS: MASTER'S (1-19 Var.) Rpt. Z/U. (PR: CI)

HUMANITIES/AMERICAN STUDIES

American Studies

Chairperson: A.J. Sparks; *Associate Professors:* R.A. Banes, P.J. Brewer; *Assistant Professor:* D.Belgrad; R.O. Arsenault, S.D. Greenbaum, N.C. James, J.B. Moore, S.A. Zylstra.

AMS 6002 AMERICAN LIVES (3) Open to non-majors. An interdisciplinary approach to the study of autobiography. Examines the relationship between identity and community in classic American autobiographies. Utilizes autobiography as a resource of social and cultural history which provides insights regarding the complex interaction between a life, a mind, and a text. (PR: GS, CI)

AMS 6254 DECADE IN DEPTH (3) Open to non-majors. Interdisciplinary analysis of American life during a specific cultural era. 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 interdisciplinary perspectives.

AMS 6805 MAJOR IDEAS IN AMERICAN CIVILIZATION (3) Open to non-majors. Investigates the role of one or more influential ideas in American culture, e.g., community, domesticity, democracy, slavery, progressivism, radical reform.

AMS 6901 DIRECTED READINGS IN AMERICAN STUDIES (1-3) Open to non-majors. A supervised program of intensive reading. S/U Rpt. to 4 hours. (PR: CI, CC)

AMS 6915 DIRECTED RESEARCH (1-12) Var. Rpt. S/U. (PR: GR, ML)

AMS 6934 SELECTED TOPICS (1-3) Open to non-majors. Variable topics such as American Autobiography, Film in American Culture, and Photography in American Culture.

AMS 6938 SEMINAR IN AMERICAN STUDIES (3) Rpt. Open to non-majors. Advanced interdisciplinary research. Topics include Popular Culture, Material Culture, Native American Culture.

AMS 6940 INTERNSHIP IN AMERICAN STUDIES (3) A structured, out-of-class learning experience providing first hand, practical training in American Studies-related professional careers. Rpt. S/U. (PR: Majors only)

AMS 6971 THESIS: MASTER'S (1-19 Var.) Rpt. Z/U.

Humanities

Chairperson: A.J. Sparks; *Professors:* C.B. Cooper, S.L. Gaggi, T.B. Hoffman (*Emeritus*), H. Juergensen (*Emeritus*), G.S. Kashdin (*Emeritus*), E.M. MacKay (*Emeritus*), D. Rutenberg, A.J. Sparks, S.A. Zylstra; *Assistant Professors:* D. Belgrad, J.P. D'Emilio, N. Yavneh.

HUM 6412 STUDIES IN THE HUMANITIES OF INDIA (3) 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 (3) 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 (3) 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 (3) Study of selected works dealing with the development of cultural patterns on the western frontiers and their effects on aesthetic judgement. From 1790 to 1890.

HUM 6456 STUDIES IN AMERICAN ARTS AND LETTERS II (3) 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 (3) 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 (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U.

HUM 6915 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: CI)

HUM 6939 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 advisor, the student plans, organizes, and writes a thesis on a topic in interdisciplinary arts and ideas.

INTERDISCIPLINARY SOCIAL SCIENCES

Director: R. Gagan.

ISS 5934 SELECTED TOPICS (1-3) Interdisciplinary studies with course content dependent on student demand and instructor's interest. Rpt. as topics vary. (PR: CI and senior standing or GS)

ISS 6900 DIRECTED READING (1-3) A supervised program of intensive reading of interdisciplinary materials of specific interest. Rpt. (PR: CI and GS)

ISS 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR, ML, CC)

SCHOOL OF LIBRARY AND INFORMATION SCIENCE

Director: K. McCook; *Professors:* K. McCook, F.C. Pfister; *Associate Professors:* V.L. Gregory, A.H. Perrault, M. Stauffer, T.C. Wilson; *Courtesy Associate Professor:* Y.L. Ralston; *Assistant Professor:* J.O. Carey; *Lecturer:* B.E. Hadidy; *Professor Emerita:* J. Knego, H. Smith; *Instructor:* A.M. Smith, S.R. Wohlmut.

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 LIBRARY AND INFORMATION SCIENCES (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 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 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 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 6511 or CI)

LIS 6212 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 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 6585 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 6262 LIBRARY SYSTEMS PLANNING (3) Application of systems planning and data processing technology to library files. Emphasis on analysis of selected library subsystems.

LIS 6271 RESEARCH METHODS IN LIBRARY AND INFORMATION SCIENCE (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 6303 PREPARING INSTRUCTIONAL MEDIA (3) Fundamentals of preparing and using audiovisuals as they relate to the communication process.

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 6409 INTRODUCTION TO LIBRARY ADMINISTRATION (3) Behavioral approach to libraries as organizations; administrative principles, theories, and problems of all types of libraries; methods of administration; use of case studies, role plays, and in-basket exercises.

LIS 6432 SEMINAR IN ACADEMIC LIBRARIES (3) Identification of problems and critical examination of methods in administrative areas of technical, student, and teaching
LIS 6402 ADVANCED LIBRARY ADMINISTRATION (3) Applications of staff management principles to library situations. Includes staff roles in current and future operations, applications 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 6409 INTRODUCTION TO LIBRARY ADMINISTRATION (3) Behavioral approach to libraries as organizations; administrative principles, theories, and problems of all types of libraries; methods of administration; use of case studies, role plays and in-basket exercises.

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 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 law 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 6603, LIS 6735, or CI)

LIS 6475 HEALTH SCIENCES LIBRARIANSHIP (3) All aspects of health science librarianship, including administration, acquisition, organization, and use of information resources for persons in the health fields such as physicians, medical students, nursing students, allied health personnel and students, and researchers. Field trip may be required. (PR: LIS 6260, LIS 6409, LIS 6603, 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 6511 COLLECTION DEVELOPMENT AND MAINTENANCE (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 6603 or CI)

LIS 6542 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 6565 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 6585 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 6603 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 research experience. (PR: LIS 6260, LIS 6603, 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 6603 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 in reference service. (PR: LIS 6603)

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 6603 or CI)

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 (3) 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 service 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 advisor)

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 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)

MARINE SCIENCE

Chairperson: P.R. Betzer; *Distinguished Research Professors:* W.M. Sackett, J.J. Walsh, R.H. Byrne; *Professors:* P.R. Betzer, N.J. Blake, K.L. Carder, L.J. Doyle, K.A. Fanning, A.C. Hine, T.L. Hopkins, P. Hallock Muller, J.H. Paul, J.J. Torres, E.S. Van Vleet, R.H. Weisberg; *Associate Professors:* J.S. Compton, B. Galperin, M. Luther, J.B. Rose, G.A. Vargo, R.R. Wilson; *Assistant Professors:* P.G. Coble, F.E. Müller-Karger, D.F. Naar, S. Tebbens.

OCB 6050 BIOLOGICAL OCEANOGRAPHY (3) Study of life in the oceans, its rates and processes, and its interaction with the physical and chemical environment. Lec. (PR: GS or 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 6050, 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 6050, 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 6050, 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. Coursework is focused on aquatic ecosystems. 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 6050, or CI).

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 means by which graduate students can receive formal course instruction in a non-lectureformat. S/U only. (PR: GS or CI)

OCC 6050 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, organic matter, and stable and radioactive isotopes. Lec (PR: CHM 2046 and GS 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 6050 or CI)

OCC 6067 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 6050 or CI)

OCC 6111C APPLICATIONS OF GAS CHROMATOGRAPHY AND MASS SPECTROMETRY IN MARINE SCIENCE (3) Analytical techniques of high resolution gas chromatography and combined gas chromatography-mass spectrometry are applied to problems in Marine Science. Theoretical aspects of the techniques are covered in lectures, while detailed experimental procedures are taught and practiced in the laboratory. (PR: OCC 6050 and 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 6050 or CI)

OCE 6908 INDEPENDENT STUDY (1-10 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)

OCE 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CI)

OCE 6972 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML, CI)

OCE 7910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. Ph.D. level, CI)

OCE 7980 DISSERTATION: DOCTORAL (1-19 Var.) S/U (PR: Admission to Candidacy, CI)

OCG 6051 GEOLOGICAL OCEANOGRAPHY (3) Marine geology including plate tectonics; coastal, shelf and pelagic sedimentation; geochemical cycling; and sedimentary history of the ocean basins. Lec (PR: GS or CI)

OCG 6075 METHODS IN GEOLOGICAL OCEANOGRAPHY (1) Description and application of the modern techniques used to investigate Geology and Geophysics. (PR: OCG 6051 or CI)

OCG 6080 PLATE TECTONICS (3) An overview of the Plate Tectonic theory, including such topics as: geometry of Plate Tectonics, tectonics on a sphere, past plate motions, seismology, the trenches, oceanic gravity, geochronology, heat flow, oceanic lithosphere, ridges, transforms, trenches, oceanic islands, and continental lithosphere.

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 6051, 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 6051, or CI)

OCG 6453 GEOCHEMISTRY MARINE SEDIMENTS (3) General survey course of the mineralogy, chemical composition, physical properties and origin of marine sediments. Topics include the transport, deposition, and burial diagenesis of organic matter and carbonate, aluminosilicate and silica minerals. Theoretical and practical aspects of x-ray diffraction. (PR: BA in Chemistry or Geology or CI)

OCG 6455 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 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 6051, 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 biota. Not Rpt. S/U. (PR: OCB 6050, OCC 6050, OCG 6051, and OCP 6050, or CI)

OCG 6666 CARBONATE DEPOSITIONAL SYSTEMS (3) In-depth presentation of production, transport, and accumulation of carbonate sediments on platforms and shelves. Characteristics of carbonate sediment type, primary environment controls, and relationships to surrounding facies will be presented. Available to non-majors. (PR: BA in Geology or CI)

OCG 6668 EVOLUTION AND ECOLOGY OF REEFS (3) Advanced course in ecology and evolution of reef communities. Topics include environmental controls on reef development, basic components of modern reef communities, and how those components have changed through geologic time. (PR: OCB 6050 and OCG 6051 or CI)

OCP 6050 PHYSICAL OCEANOGRAPHY (3) The world ocean including its morphology, physical properties, currents, waves, tides, heat and water budgets, and related topics. Lec. (PR: Diff/int. calculus, General Physics, and GS or CI)

MASS COMMUNICATIONS

Director: E.J. Friedlander; *Professors:* J. Black, D.L. Dickerson, E.J. Friedlander, G.M. Killenberg, M. Lucoff; *Associate Professors:* D.S. Bagley III, T.M. Counts, Jr., R.W. Dardenne, W.G. Fudge, L.Z. Leslie, H.A. Regis; *Assistant Professors:* K.F. Brown, S. Liu, R. Miller, B. Petersen, G.L. Werner; *Instructors:* D. Togie, Jr., R. Wilber.

JOU 5116 EXPLORATIONS IN NEWSWRITING (3) Explores the notion that narrative-style journalism can be accurate, thorough, fair, and compelling, effectively bringing readers into stories and giving them a bigger stake in the news. Course goes beyond traditional practices of reporting and writing news stories. (PR: CC)

JOU 6107 NEWS COVERAGE OF PUBLIC LIFE (3) Problems and methods of reporting urban affairs, including municipal government, and politics: city, county, and state. Research/analyses of current issues. (PR: CC)

JOU 6115 REPORTING: METHODS AND PERSPECTIVES (3) Instruction and practice in computer-assisted reporting, social science research, interviewing, data-document research, observational techniques, and other methods of news gathering. (PR: CC)

JOU 6191 SEMINAR: CONTEMPORARY ISSUES IN JOURNALISM (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. (PR: CC)

JOU 6707 STUDIES IN PRESS CRITICISM (3) A study of the principles and methods of journalism and the performance of its practitioners from a multi-disciplinary perspective of critical analysis. (PR: CC)

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. (PR: CC)

MMC 6401 MASS COMMUNICATION THEORY (3) The study of mass communications theories, structures, influences, and their relationships to institutions in American society. (PR: CC)

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. (PR: CC)

MMC 6608 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. (PR: CC)

MMC 6612 SEMINAR: LAW AND THE MASS 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; theory and philosophy of the First Amendment; research procedures in court and administrative agency documents. (PR: CC)

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 advisor)

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 advisor)

MMC 6920 INTRODUCTORY MASS COMMUNICATIONS SEMINAR (3) Introduction to the aims and methodologies of graduate study in Mass Communications, its development and relationship to the arts and sciences, and the relationship of the scholarly aspects of media studies to professional media practice; bibliographical resources, and overview of research methods and scholarly style. (PR: Admission to the Graduate Program or CI)

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. (PR: CC)

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 advisor. S/U. (PR: 12 graduate hours in Mass Communications, CC)

MMC 6950 NON-THESIS PROJECT (3) Completion of a major project under supervision. Topic will be selected according to student's needs and interests. (PR: CI and permission of graduate advisor)

MMC 6971 THESIS: MASTER'S (1-19 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. (PR: CC)

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. (PR: CC)

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. (PR: CC)

MATHEMATICS

Chairperson: W.R. Stark; *Associate Chairperson:* M.M. McWaters; *Distinguished Research Professor:* E.B. Saff; *Professors:* W.E. Clark, M.E.H. Ismail, A.G. Kartsatos, J.J. Liang, M.N. Manougian, A. Mukherjea, A.N.V. Rao, J.S. Ratti, B. Shekhtman, V. Totik, C.P. Tsokos, C.A. Williams; *Associate Professors:* R.W.R. Darling, S. Isaak, G.L. McColm, M.E. Parrott, J.F. Pedersen, K.L. Pothoven, K.M. Ramachandran, W.R. Stark, E.A. Thieleker, Y. You, F.J. Zerla; *Assistant Professors:* N. Jonoska, R.W. Oberste-Vorth, E. Ralehmanq, S. Suen, M. Saito; *Instructor:* M. Krawcewski.

MAA 5306 REAL ANALYSIS I (3) Riemann-Stieltjes integrals, uniform convergence, Fourier series, Lebesgue measure and integration on \mathbb{R} . (PR: MAA 4212)

MAA 5307 REAL ANALYSIS II (3) Metric spaces, Banach spaces and function spaces; measure and integration on abstract spaces. (PR: MAA 5306)

MAA 5405 APPLIED COMPLEX VARIABLES (3) Complex numbers, analytic and harmonic functions, series, contour integrals, residue theory, conformal mappings; a survey course emphasizing techniques and applications. (PR: MAP 4302)

MAA 6406 COMPLEX ANALYSIS I (3) Linear transformations, analytic functions, conformal mapping, Cauchy's theorem and applications, power series, partial fractions and factorization, elementary Riemann surfaces, Riemann mapping theorem. (PR: MAA 5405 or CI)

MAA 6407 COMPLEX ANALYSIS II (3) Topics in: conformal mappings, normal families, Picard's theorem, univalent functions, extremal properties, elliptic functions, approximation theory, Riemann surfaces. (PR: MAA 6406 or CI)

MAA 6506 FUNCTIONAL ANALYSIS I (3) Normed linear spaces and topological vector spaces; open mapping, closed graph, and Hahn-Banach Theorem, UB principle, compact operators, dual spaces. (PR: MAA 5307 & MAS 5107 or CI)

MAA 6507 FUNCTIONAL ANALYSIS II (3) Hilbert spaces, spectral theory, and other topics. (PR: MAA 6506)

MAA 6616 ABSTRACT INTEGRATION (3) Measure as abstract integration; Riesz representation theorem, Fubini's Theorem, Radon-Nikodym Theorem, LP spaces. (PR: MAA 5307 or CI)

MAA 6617 TOPICS IN INTEGRATION (3) Topics in: weak convergence of measures on metric spaces, Haar integration and Fourier analysis in groups, stochastic integration. (PR: MAA 6616)

MAD 5101 LISP: PROGRAMMING WITH ALGEBRAIC APPLICATIONS (3) Programming in LISP, functional languages, foundations of the Lambda Calculus, and algebraic applications (theorem proving and game playing.) (PR: MHF 5306 or MAD 6510 or MAS 5311 or CI)

MAD 5305 GRAPH THEORY (3) Brief introduction to classical graph theory (4-color theorem, etc.), directed graphs, connected digraphs, condensations, incidence matrices, Polyá's Theorem, networks. (PR: CI)

MAD 6206 COMBINATORICS I (3) Elementary counting principles, distributions, sets, multisets, partitions of sets and integers, generating functions and recurrences, graphical methods, probabilistic methods. (PR: MAS 3103 and MAS 4301 or CI)

MAD 6207 COMBINATORICS II (3) Combinatorics of finite sets: posets, hypergraphs and external problems, matroids, block designs, Mobius inversion for partially ordered sets, Polyá's enumeration theory. (PR: MAS 5311 and MAD 6206 or CI)

MAD 6407 ANALYSIS OF NUMERICAL METHODS (4) Interactive 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 of algorithms for information processing, including time and space requirements of algorithms, construction of optimal algorithms. (PR: MHF 4102 or MAS 4301 or CI)

MAD 6616 ALGEBRAIC AUTOMATA THEORY (3) Deterministic and non-deterministic finite automata, Mealy and Moore machines, push-down automata, Turing machines, regular languages, context free languages, halting problem, and universal Turing machines. (PR: MHF 4102 or MAS 4301 or CI)

MAD 6617 ALGEBRAIC CODING THEORY (3) Linear block codes over an arbitrary finite field: Hamming, Golay, BCH, quadratic residue, Reed-Muller, and MDS codes, the MacWilliams identity, bounds on minimum distance, and relationship to design theory. (PR: MAS 5311 or CI)

MAE 5875 ABSTRACT ALGEBRA FOR TEACHERS (3) Groups, fields, 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) Limits, continuity, derivatives, differentials. (No credit for Mathematics majors.) (PR: MAC 3313 and Bachelor's degree or CI)

MAP 5316 ORDINARY DIFFERENTIAL EQUATIONS I (3) Existence and uniqueness theory, properties of solutions, linear systems, 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, eigenfunction expansions. (PR: MAP 5316 and MAA 5306 or CI)

MAP 5345 APPLIED PARTIAL DIFFERENTIAL EQUATIONS (3) Separation of variables, the heat equation, wave equation, Laplace's equation, classification, 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, numerical solutions of differential equations (PR: MAP 4302 or CI)

MAP 6205 CONTROL THEORY AND OPTIMIZATION (3) Projection theorems and minimum norm problems, convex analysis, duality principle, constrained optimization, finite dimensional linear systems, controllability, optimal control and pontryagin maximum principle (PR: MAA 5307 and MAP 5316 or CI)

MAP 6206 MATH OPT TH II (3)

MAP 6336 THEORY OF ORDINARY DIFFERENTIAL EQUATIONS I (3) Advanced topics selected from: existence and uniqueness theory, singularity theory, asymptotics and stability, eigenfunctions, perturbations, topological methods, spectral theory of differential operators. (PR: MAA 5307 and MAP 5317, or CI)

MAP 6356 PARTIAL DIFFERENTIAL EQUATIONS (3) Advanced topics from: elliptic boundary value problems, semigroup theory, Sobolev spaces, degree theory, regularity, evolution equations (PR: MAP 5345 and MAA 5307, or CI)

MAP 6375 NUMERICAL THCHNIQUES FOR PARTIAL DIFFERENTIAL EQUATIONS (3) Finite differences and finite element methods. Convergence, ability, accuracy. Variational techniques. Acceleration methods. Shocks (PR: MAP 5345 and MAD 6407)

MAS 5107 ADVANCED LINEAR ALGEBRA (3) Finite-dimensional vector spaces over arbitrary fields, dual spaces, canonical forms for linear transformations, inner product spaces, orthogonal, unitary, and self-adjoint operators and quadratic forms. (PR: MAS 3103 and MAD 4301: CR MAS 5311)

MAS 5215 NUMBER THEORY (3) Fundamental theorem of arithmetic, modular arithmetic, Chinese remainder theorem, Mersenne primes, perfect numbers, Euler-Fermat theorem, pseudoprimes, primitive roots, law of quadratic reciprocity, factorization and primality testing algorithms. (PR: MAS 3103 and MAS 4301, or CI)

MAS 5311 ALGEBRA I (3) Group theory: Sylow theorems; classification of groups of small order. Ring theory: ideals, quotient rings, polynomial rings, Euclidean domains, principal ideal domains and unique factorization. (PR: MAS 3103 and MAS 4301 or CI)

MAS 5312 ALGEBRA II (3) Finitely generated modules over a principal ideal domain, basic field theory, finite fields, Galois theory. (PR: MAS 5311 or CI)

MAT 5932 SELECTED TOPICS (1-4) Each course covers a single topic outside the usual curriculum. (PR: CI)

MAT 6908 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U.

MAT 6911 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: Master's degree)

MAT 6932 SELECTED TOPICS (1-4) Each course covers a single topic outside the usual curriculum. (PR: CI)

MAT 6939 GRADUATE SEMINAR (1-4) Direction of this seminar is by a faculty member. Students are required to present research papers from the literature. S/U.

MAT 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CI)

MAT 7912 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: Ph.D. level)

MAT 7980 DISSERTATION: DOCTORAL (1-19 Var.) Rpt. (PR: Admission to Candidacy)

MHF 5306 MATHEMATICAL LOGIC AND FOUNDATIONS I (3) Two-course sequence covering; predicate calculus and classical model theory; transfinite set theory and the system ZFC; recursion theory and decidability. (PR: MAS 4301 or CI)

MHF 5405 HISTORY OF MODERN MATHEMATICS (3) Traces the development of mathematical ideas from the Renaissance to the 19th century. Open to non-majors. (PR: MAC 3313)

MHF 6307 MATHEMATICAL LOGIC AND FOUNDATIONS II (3) Continuation of MHF 5306. (PR: MHF 5306)

MTG 5256 DIFFERENTIAL GEOMETRY (3) Exterior calculus, differentiable manifolds, integration of differential forms, surfaces in 3-space, covariant derivative, curvature, matrix groups. (PR: MAA 4211, MAS 3103)

MTG 5316 TOPOLOGY I (3) Topological spaces, continuity, homeomorphisms, connectedness, compact spaces, separation axioms, product spaces. (PR: MAA 4212 and MHF 4102)

MTG 5317 TOPOLOGY II (3) The fundamental group; elements of homotopy theory and homology theory. (PR: MTG 5316)

MTG 6326 ADVANCED TOPOLOGY (3)

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 inter-relation between statistical theory, numerical methods, and analysis of real life data. (PR: STA 4321 and CGS 3422, or CI)

STA 5228 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 5326 MATHEMATICAL STATISTICS (3) 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: MAA 4212 and STA 4442, or CI)

STA 5526 NON-PARAMETRIC STATISTICS (3) Theory and methods of non-parametric statistics, order statistics, tolerance regions, and their applications. (PR: STA 5326 or CI)

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 for numerical solutions of likelihood equations. (PR: STA 5166)

STA 6206 STOCHASTIC PROCESSES (4) Poisson processes, renewal theorems, Markov chains on a countable state space, continuous-time Markov processes with a countable state space, birth and death processes, branching processes, introduction to Brownian motion. (PR: STA 5446)

STA 6208 LINEAR STATISTICAL MODELS (3) Distribution theory, estimation, and hypothesis testing for the general linear model. Experimental designs, including randomized block and incomplete block designs. Multiple regression, ANOVA, and ANCOVA. (PR: STA 5167 or STA 5326 or CI)

STA 6447 PROBABILITY THEORY II (3) Characteristic functions, central limit theorem, martingale inequalities and convergence theorems, optional stopping, ergodic theorems and applications. (PR: STA 5446 and MAA 5306 or CI)

STA 6746 MULTIVARIATE ANALYSIS (3) Multivariate normal distribution; its properties and inference; matrix random variables; multiple and partial correlation; discriminant analysis, principle components and factor analysis; multivariate ANOVA; analysis of covariance; applications using computers. (PR: STA 5326 or CI)

STA 6876 TIME SERIES ANALYSIS (3) Theory and applications of discrete time series models illustrated with forecasting problems. Filtering, forecasting, modeling, and spectral analysis of time series. Control problems. Applications using a computer. (PR: STA 5326 or CI)

MICROBIOLOGY

See offerings under Biology.

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 3030)

MCB 5606 SYMBIOLOGY (3) Consideration of mutualistic and parasitic symbioses between microbes and various animal, plant, and microbial hosts from cellular, biochemical, evolutionary, and ecological perspectives. (PR: A course in Microbiology, Cell Biology or Biochemistry, and advanced standing)

MCB 5815 MEDICAL MYCOLOGY (3) A modern biological survey of the medically important fungi (yeasts and molds) important to microbiologists and environmental scientists. (PR: MCB 3030)

MCB 6919 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CI)

MCB 6930 GRADUATE MICROBIOLOGY SEMINAR (1) A critical examination and discussion of current literature of microbiology.

MCB 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U. (PR: CI)

PCB 6236 ADVANCED IMMUNOLOGY (4) Discussion of the basic immune reaction, nature of antigenicity; basic immunological techniques and their use in biological research and the medical sciences. Lec/Lab. (PR: CI)

LANGUAGES AND LINGUISTICS

Director: R.W. Cole; *Professors:* G. Brulotte, C.W. Capsas, C.J. Cargill, R.W. Cole, D. Ierardo, A.L. Motto, E.J. Neugaard, R.C. O'Hara, V.E. Peppard, R.A. Preto-Rodas, C.E. Scruggs; R.A. Stelzmann; *Associate Professors:* J.C. Caffisch, Sr., C.J. Cano, M. Esformes, W.H. Grothmann, W.R. Hampton, J.D. Noonan, C.M. Probes, J.C. Tatum; *Assistant Professors:* J. Flaitz, J.J. Thompson; *Lecturers:* J. Campbell, J.A. Feliciano-Butler, R.E. Horn, I.A. Nemchonok, S. Wohlmuth; *Courtesy Faculty:* Y.R. Cadiz, A.G. Grognet, K. Mukherjee, W.H. Murray, A. Starr, J.F. Strange, G.K. Tipps.

General

See also offerings under Classics, French, German, Italian, Linguistics, and Spanish

FOL 5906 DIRECTED STUDY (1-3) (PR: FOL 4200 or equiv., CC)

FOW 6805 BIBLIOGRAPHY (1) Research methods. Includes familiarity with major journals and bibliographies, with a practicum. S/U.

Classics - Greek

GRW 5905 DIRECTED READING (1-4) Departmental approval required.

GRW 5934 SELECTED TOPICS (4) Study of an author, movement, or theme of ancient Greece. Open to non-majors.

Classics - 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.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, PR: CC)

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 (1-19 Var.) Rpt. S/U. (PR: GR. ML, CC)

FRE 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U. (PR: CC)

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, Montherlan, Sartre, Ionesco. (PR: FRW 4101)

FRW 5286 THE 20TH CENTURY NOVEL (3) Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet. (PR: FRW 4100)

FRW 5314 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 5528 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 in depth 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 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 (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CC)

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 5605 GOETHE (3) Selected novels, poems: Werther, Wahlverwandschaften, Wilhelm Meister, Westostlicher, Divan.

GEW 5606 FAUST (3) Sources, form, content, and literary significance of Urfaust and Faust.

GEW 5615 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)

Italian

ITW 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML)

Linguistics

LIN 5700 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 6018 TOPICS IN THEORETICAL LINGUISTICS (3) Offerings will include current issues in any area of linguistic theory.

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 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. (PR: CC)

LIN 6129 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 6322 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: LIN 6520, or CI)

LIN 6351 THE SOUND SYSTEM OF ENGLISH (3) Training in applied phonetic transcription of American English speech; analysis and description of major phonological processes and dialect features of American English, with practice in teaching pronunciation. (PR: LIN 5700 or EQ)

LIN 6520 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 6571 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 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 6675 THE GRAMMATICAL STRUCTURE OF AMERICAN ENGLISH (3) Analysis and description of major morphological and syntactic structures of American English, with emphasis upon applied linguistics. (PR: LIN 5700 or EQ)

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 6720 SECOND LANGUAGE ACQUISITION (3) Neurolinguistic, psycholinguistic, and sociolinguistic bases of second language acquisition by both children and adults. (PR: LIN 6715 or EQ)

LIN 6748 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 6752 FORMAL STYLISTICS (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 6850 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: LIN 6520)

LIN 6908 INDEPENDENT STUDY (1-19 Var.) Independent study in which the student must have a contract with an instructor. Rpt. S/U. (PR: CC)

LIN 6910 DIRECTED RESEARCH (1-10 Var.) Rpt. S/U. (PR: GR. ML, CC)

LIN 6932 SELECTED TOPICS (1-4) Content will depend upon instructor's interests and students' needs. Such topics and neurolinguistics, bilingualism, and discourse analysis may be taught. (PR: CC)

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 (1-19 Var.) Rpt. S/U.

TSL 5321 ESOL STRATEGIES FOR CONTENT AREA TEACHERS (3) Course designed for public school teachers working with limited English Proficient (foreign) students in the classroom. The new ESOL requirements specify that this course be offered to content area teachers and to ESOL teachers. May not be repeated.

TSL 5371 METHODS OF TEACHING ENGLISH AS A SECOND LANGUAGE (3) Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.

TSL 5372 ESOL CURRICULUM AND INSTRUCTION (3) Analysis of the methods of teaching English pronunciation and structure to speakers of other languages. (PR: CC)

TSL 5471 LANGUAGE TESTING (3) Lecture course on testing English as a second/foreign language. (PR: TSL 5371)

TSL 5525 CROSS CULTURAL ISSUES IN ESL (3) Lecture course on cultural issues in Teaching English as a Second/Foreign language. (PR: LIN 5700)

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 5371 and TSL 5372)

Spanish

SPN 5525 MODERN SPANISH AMERICAN CIVILIZATION (3) Advanced readings and discussions dealing with Spanish American civilization and culture, including a study of social, artistic and political trends. Text and discussion in Spanish. (PR: SPN 3520)

SPN 5567 MODERN SPANISH CIVILIZATION (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, CC)

SPN 6455 STYLISTICS (3) Study of major models of style in different genres. Majors only. (PR: SPN 4301 or equiv)

SPN 6795 PHONOLOGY AND DIALECTOLOGY (3) A study of the Spanish sound system. (PR: SPN 3300)

SPN 6845 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 5135 COLONIAL SPANISH AMERICAN LITERATURE (3) Introduction to Colonial Spanish American Literature from the discovery through the Romantic Period. (PR: SPW 4131)

SPW 5355 SPANISH AMERICAN DRAMA AND POETRY (3) Major writers of all genres. Emphasis on modern writers. (PR: SPW 4131)

SPW 5387 SPANISH AMERICAN PROSE (3) Emphasis on the gaucho theme and contemporary prose fiction. (PR: SPW 4131)

SPW 5388 GOLDEN AGE POETRY AND DRAMA (3) Lope de Vega, Alarcon, Tirso, Calderon, and others. (PR: SPW 4100)

SPW 5405 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 5465 19th CENTURY LITERATURE (3) Appreciation of the romantic and realist periods in Spanish literature. (PR: SPW 4101)

SPW 5605 CERVANTES (3) Cervantes' masterpiece Don Quijote de la Mancha.

SPW 5725 THE GENERATION OF 1898 (3) The major figures of the period and their main followers. (PR: SPW 4101)

SPW 5726 VANGUARD LITERATURE 1918 AND 1936 (3) A study of Vanguard literature in Spain between 1918 and 1936. (PR: SPW 4101)

SPW 5934 SELECTED TOPICS (3) Study of an author, movement, or theme. (PR: Upper-level or GS)

SPW 6428 GOLDEN AGE NOVEL (3) Realistic prose-fiction of the Renaissance and Golden Age.

SPW 6485 POST CIVIL WAR LITERATURE (3) The drama and novel since 1936. (PR: SPW 4101)

SPW 6775 CARIBBEAN LITERATURE (3) Emphasis on contemporary Cuban and Puerto Rican literature. (PR: SPW 4131)

SPW 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR, ML, CC)

SPW 6936 GRADUATE SEMINAR (3) Topics vary. Rpt. (PR: CC)

SPW 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U. (PR: CC)

PHILOSOPHY

Chairperson: W.H. Truitt; *Distinguished Research Professors:* K.S. Shrader-Frechette, S.P. Turner; *Professors:* J.P. Anton, J.A. Bell, J.A. Gould, L.L. McAlister, B. Silver, W.H. Truitt, R.C. Weatherford, K. Wiredu; *Associate Professors:* J.B. Waugh, R.N. Taylor; *Courtesy Associate Professor:* M. Myerson; *Courtesy Professor:* D.J. Fasching.

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 logical theory. This course may be taken more than once for credit with CI and departmental approval. Seminar format. (PR: GS or CI)

PHI 6155 MODAL LOGIC (3) A study of the main systems of Modal Logic together with their metatheory, with considerable attention to the varieties of modality. (PR: PHI 2100 and 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 6665 METAETHICS (3) A study of alternative theories of metaethics including emotivism, moral point of view, supererogate virtue theory. (PR: PHI 3600 or CI or GS)

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 (1-19 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 (1-19 Var.) Rpt. S/U (PR: CC)

PHI 7980 DISSERTATION: DOCTORAL (1-19 Var.) Rpt. (PR: Admission to candidacy)

PHM 5125 TOPICS IN FEMINIST PHILOSOPHY (3) A study of recent feminist philosophical approaches to epistemology, aesthetics, or political philosophy.

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)

PHP 6005 PLATO (3) A systematic study of Plato's dialogues. (PR: GS or CI)

PHP 6015 ARISTOTLE (3) A systematic study of Aristotle's philosophy. (PR: GS or CI)

PHYSICS

Chairperson: S. Sundaram; *Professors:* S.C. Bloch, H.R. Brooker, R.S.F. Chang, L. Clarke, S.R. Deans, N. Djeu, R.W. Flynn, N.C. Halder, L. Jastrzebski, W.D. Jones, D.K. Killinger, J. Lagowski, S. Sundaram; *Associate Professors:* J.L. Aubel, M.K. Kim, P. Mukherjee; *Assistant Professors:* S. Witanachchi; *Instructor:* D. Spurgin.

PHY 5720C ELECTRONICS FOR RESEARCH (3) A rigorous introduction to the fundamentals of analog and digital electronics. Theoretical circuit analysis and weekly labs introduce practical use of diodes, transistors, analog and digital ICs, breadboarding techniques and electronic test instrumentation. Spring Semester. (PR: CI)

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, rigid body dynamics. Fall Semester. (PR: PHY 4222 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 4324C 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 6446 LASER PHYSICS AND NONLINEAR OPTICS I (3) Optical modes, optical resonator theory, gain saturation, theory of laser oscillators, specific laser systems, Q-switching and mode-locking, optical waveguides. (PR: PHY 4324C and PHY 4604 or CI)

PHY 6447 LASER PHYSICS AND NONLINEAR OPTICS II (3) Nonlinear optics including optical phase conjugation, second harmonic and sum frequency generation, and stimulated Raman scattering. Selected applications of lasers and nonlinear optics. (PR: PHY 6446 or CI)

PHY 6536 STATISTICAL MECHANICS (3) Kinetic theory, configuration and phase space. Boltzmann theorem, Liouville theorem, ensemble theory, quantum statistics. Spring Semester. (PR: PHY 5624 or CI)

PHY 6645 QUANTUM MECHANICS I (3) Hilbert space, continuous spectrum, matrix and wave mechanics, quantum dynamics, symmetries, angular momentum, perturbation methods (PR: PHY 4604 or CI)

PHY 6646 QUANTUM MECHANICS II (3) Approximation and perturbation methods, hydrogen finestructure, scattering, identical particles, second quantization, Dirac equation. (PR: PHY 6645 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 semiconductor Hall experiments. Fall Semester, non-rpt. (PR: GS or CC)

PHY 6909 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CI)

PHY 6911 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR, ML, CI)

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. (PR: CI)

PHY 6938 SELECTED TOPICS IN PHYSICS (1-10) Each topic is a course in directed study under the supervision of a faculty member. (PR: CI)

PHY 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CI)

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 CI)

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 CI)

PHZ 5304 NUCLEAR PHYSICS (3) Nuclear forces, nuclear models, nuclear structure, decay, nuclear reactions, and high energy physics. Spring Semester. (PR: PHY 4604 or CI)

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 of sequence PHZ 5405, PHZ 6426. Spring Semester. (PR: PHY 3221, MAP 4302, CI)

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 CI)

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: CI)

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, isotope effects. Fall Semester. (PR: PHY 4604 or CI)

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 CI)

PHZ 6426 SOLID STATE PHYSICS II (3) Optical, electrical and magnetic properties of insulators, superconductivity, imperfections in solids. Second semester of sequence PHZ 5405, PHZ 6426. Fall Semester. (PR: PHZ 5405 or CI)

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 CI)

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: CI)

POLITICAL SCIENCE

Chairperson: M.T. Gibbons; *Professors:* R.A. Factor, W.E. Hulbary, S.A. MacManus, F.U. Ohaegbulam, H.E. Vanden; *Associate Professors:* J.E. Benton, M.T. Gibbons, A.E. Kelley, R. Khator, M.M. Milani, L. Morehouse, D. Paulson, P.N. Rigos; *Assistant Professors:* C. Hall, K. Tenpas, D. Peng; *Other Faculty:* M. Amen, R. Barylski, E. Conteh-Morgan, K. Glover, J.E. Jreisat, D.C. Menzel, H. Nelsen, D. Slider, J.B. Snook.

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. (Sr./GS)

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. (Sr./ GS)

CPO 6091 SEMINAR IN COMPARATIVE POLITICS (3) Extensive examination of the major theories and approaches used in the study of Comparative Politics. Seminar format. (GS)

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. (Sr./ GS)

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. (Sr./ GS)

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 foreignpolicy; critical issues and problems confronting the United States. Study of various conceptual, methodological, and theoretical approaches. (GS)

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. (Sr./ GS)

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. (Sr./ GS)

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. (GS)

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. (GS)

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. (GS)

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. (GS)

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. (GS)

POS 6607 CONSTITUTIONAL LAW (3) Advanced study of legal, political, philosophic, and methodological problems in constitutional law. (PR: GS)

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. (GS)

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, CC)

POS 6919 DIRECTED RESEARCH (1-19 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 (PR: CI).

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 GS)

POS 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CC)

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)

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: E.L. Levine; *Distinguished Research Professors:* M.S. Goldman, J.J. Jenkins, D.L. Nelson, C.D. Spielberger; *Professors:* W.C. Borman, M.A. Finkelstein, R.L. Fowler, E.L. Gesten, P. Jacobsen, B.N. Kinder, R.C. LaBarba, E.L. Levine, D. McGuinness, H.H. Meyer (Emeritus), C.E. Nelson, L.A. Penner, R.W. Powell, W.A. Russell (Emeritus), W.P. Sacco, P.E. Spector, D.E. Stenmark, J.K. Thompson; *Associate Professors:* J.A. Becker, M.T. Brannick, J.M. Clingman, M.D. Coovert, T.A. Sanoeki, S. Schneider-Wright; *Assistant Professors:* M.C. Carter, C.R. Cimino, J.B. Epps, C.L. Kirstein, V. Phares, T. Shimizu; *Other Faculty:* G.W. Arendash, B.A. Casasa, M. Hardy, K. Jenkins-Hall, C. McEvoy, W. Strange, G.L. Wood, L. Zheutlin.

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 Sciences and Disorders or CI)

EXP 6208 ADVANCED 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, PERCEPTION, AND PERFORMANCE (2) Survey of research and theory dealing with animal learning, human perception and human performance. Core requirement for all graduate students in Psychology.

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 MEMORY, LANGUAGE, AND COGNITION (2) A survey of the research and theory dealing with higher memory, language, and the 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 6217 RESEARCH METHODS AND MEASUREMENT (2-4) 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 6605C 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. (PR: Graduates of Psychology or CI)

PSY 6907 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: Majors only)

PSY 6917 DIRECTED RESEARCH (1-19 Var.) . Rpt. S/U. (PR: GR. ML, CC)

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. (PR: CI)

PSY 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CC)

PSY 7780 PROGRAM EVALUATION (3) 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 (1-19 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 (1-19 Var.) S/U (PR: Admission to Candidacy)

SOP 6059 SOCIAL PSYCHOLOGY (2) Introduction to theory and research in social psychology. Topics include social cognition, social influence, attitudes, interpersonal interaction, and group behavior. Core requirement for all graduate students in Psychology. (PR: Admission to graduate program in Psychology or CI)

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, job stress, and decision making. Rpt. with different subject matter. (PR: CI)

PUBLIC ADMINISTRATION

Director: TBA; *Professors:* J.E. Jreisat, S.A. MacManus, D.C. Menzel; *Associate Professor:* E.J. Benton, J.L. Daly, R. Khator, D. Paulson, W.J. Pammer, Jr., P. Rigos; *Assistant Professor:* M.Y. Mongkuo, A. Nghoh.

PAD 5035 ISSUES IN PUBLIC ADMINISTRATION AND PUBLIC POLICY (3) Selected issues and topics in Public Administration and Public Policy. Rpt. as topics vary. (Sr. & GS only)

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, GS or Sr)

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. (GS or Sr)

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. (GS or Sr)

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. (GS or Sr)

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. (GS or Sr)

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. (GS)

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. (GS)

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. (GS)

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 6227 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 6307 POLICY ANALYSIS AND PROGRAM EVALUATION (3) An introduction to analyzing public problems and program development. Emphasis is placed on the methodological tools for analyzing public problems, and criteria to assess the value of programs in addressing public problems.

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. (GS or Sr)

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: POS 5736, SYA 6305 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 (1-3) 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. (GS)

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. (GS)

URP 6056 CITY AND REGIONAL PLANNING (3) A review of goals, objectives, and interrelationships between regional and city planning; intergovernmental and policy issues. Cross-listed with Political Science. (GS)

REHABILITATION COUNSELING

Chairperson: J.D. Rasch; *Distinguished Research Professor:* W.G. Emener; *Professors:* J.F. Dickman(Emeritus), J.D. Rasch; *Associate Professors:* M.J. Landsman, C.M. Pinkard, T.J. Wright; *Assistant Professors:* C.E. Griffin, S.D.M. Kelley.

RCS 5080 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. (PR: RCS 5700 or CR)

RCS 5404 INTERPERSONAL COUNSELING I: PERSONALITY THEORY (4) A skill-building course on the utilization of one's self in rehabilitation and mental health counseling relationships. Includes the study of personality theories and their contribution to successful counseling and rehabilitation practice. (PR:CC)

RCS 5406 SEMINAR I: HUMAN DEVELOPMENT THEORY IN COUNSELING (3) S/U. Human development theory as applied in psychotherapy and case management rehabilitation, mental health, and addiction, settings. Must be taken concurrently with RCS 5802. (PR: RCS 5700, RCS 5404, Majors only)

RCS 5450 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, biology, psychosocial aspects, legal aspects, and treatment of alcoholism. (PR: CI)

RCS 5700 FOUNDATIONS AND ETHICS (4) An overview of rehabilitation history and an introduction to the rehabilitation processes and ethical issues in the public and private sectors. Ethical, legal, and professional standards in mental health and rehabilitation counseling are emphasized. (PR: CC)

RCS 5802 PRACTICUM I (1) Supervised experience and practice in counseling in various rehabilitation and mental health settings for a minimum of 120 hours. Must be taken concurrently with RCS 5406. S/U. (PR: Majors Only)

RCS 5905 DIRECTED STUDIES (1-4) Supervised rehabilitation studies under the direction of a faculty member. Rpt. to 8 hours. (PR: CI)

RCS 6220 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: RCS 5080, RCS 5700, RCS 6470)

RCS 6300 PLACEMENT METHODS AND CAREER COUNSELING PROCESSES (4) Examination of placement methods and the career counseling process with handicapped individuals. Includes a survey of work requirements in different occupations and how these relate to specific functional limitations. (PR: RCS 6220 or CR)

RCS 6407 INTERPERSONAL COUNSELING II: COUNSELING THEORY (4) An extension and intensification of the rehabilitation and mental health counseling skills developed in RCS 5404. Includes the study of counseling theories and their contribution to successful counseling and rehabilitation practice. (PR: RCS 5404, RCS 5700)

RCS 6409 SEMINAR II: PSYCHOPATHOLOGY FOR MENTAL HEALTH AND REHABILITATION COUNSELORS (3) Psychopathology as applied to psychotherapy and case management in mental health, addictions, and other rehabilitation settings. Must be taken concurrently with RCS 6801. S/U. (PR: RCS 5406, RCS 6740, Majors Only)

RCS 6455 PRACTICUM IN APPLIED ALCOHOL ABUSE IN REHABILITATION COUNSELING (4) An extension of RCS 5450 with an emphasis on field work in alcoholism treatment. (PR: RCS 5450 and CI)

RCS 6459 THEORETICAL AND EXPERIENTIAL APPROACHES TO COUNSELING THE ALCOHOL ABUSER (4) An extension of RCS 5450 with emphasis on experiential approaches to counseling the alcohol abuser. (PR: RCS 5450 and CI)

RCS 6470 PSYCHOSOCIAL AND MULTICULTURAL ASPECTS OF DISABILITY (4) Psychosocial aspects of physical and mental disabilities in contemporary American society. Special emphasis on sexuality counseling for individuals with physical and mental disabilities. (PR: RCS 5700 or CR)

RCS 6510 THEORY AND PRACTICE IN GROUP WORK (4) Theoretical and empirical issues in group counseling are examined in the context of an ongoing group. Emphasis is on application to rehabilitation and mental health counseling. (PR: CI)

RCS 6740 RESEARCH IN REHABILITATION (4) Training in the evaluation and utilization of available research studies and the development of research skills. An individual research project is required. (PR: RCS 5700)

RCS 6801 PRACTICUM II (1) A continuation of the supervised experience and participation in counseling begun in RCS 5802 for an additional 120 hours. Must be taken concurrently with RCS 6409. S/U. (PR: Majors Only)

RCS 6825 INTERNSHIP IN REHABILITATION (4) Student placement in an approved intern setting for a minimum of 480 hours of supervised experience. S/U. (PR: CR, All required courses in M.A. program., CC)

RCS 6906 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CC)

RCS 6915 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML, CC)

RCS 6930 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: CI)

RCS 6970 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CC)

RELIGIOUS STUDIES

Chairperson: D.J. Fasching; *Distinguished Research Professor:* J. Neusner; *Professors:* D.J. Fasching, D. Jorgensen, S. Mandell, M.G. Mitchell, J.F. Strange; *Associate Professor:* T. Sonn.

REL 6035 PRO SEMINAR: 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, sociology, philosophy, 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 seminar 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 6178 COMPARATIVE RELIGIOUS ETHICS (3) This seminar explores key issues and the diverse methodological approaches to the comparative study of religious ethics, including history of religions, social scientific, philosophical and theological approaches.

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 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 6328 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 6346 SEMINAR: BUDDHISM (3) Open to non-majors. The seminar in Buddhism explores the history of Buddhism and/or of Buddhist texts and/or Buddhist religious thought. (PR: Var. REL 4343)

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 class deliberations. (Prerequisite or concurrent enrollment in REL 6346.)

REL 6447 LIBERATION THEOLOGY (3) A critical examination of Third World, Black American, and Feminist Liberation Theologies of the Christian tradition.

REL 6617 THE HISTORY OF JUDAISM: THE FORMATIVE AGE (3) The history of how the Judaism that predominated from the first century to the present took shape in the first six centuries AD. (PR: REL 3602)

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 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 (1-19 Var.) Rpt. S/U (PR: GR. ML, majors only)

WST 5318 FEMINIST SPIRITUALITY (3) Open to non-majors. Focuses on the many voices of contemporary feminist spirituality, emerging from women's experiences in diverse religious, ethnic and cultural traditions, and representing a range of theoretical perspectives from biblical feminism to Goddess worship in wicca. (May also be taken for credit in Women's Studies).

SOCIAL WORK

Acting Director: J. Amuso; *Associate Professors:* J.A. Giordano, T.U. Hancock, W.S. Hutchison, Jr., C.S. Roberts, A.A. Smith, P.L. Smith, R.J. Wilk; *Assistant Professors:* T. Queen, M. Rank, A.L. Strozier; *Visiting Assistant Professor:* C.G. Bennett, J. Callan, J. Carpenter, R. Tilden; *Instructors:* C.K. Bennett, S. Speer.

SOW 5930C SELECTED TOPICS IN SOCIAL WORK (1-4) Restricted to Social Work majors, both graduate and undergraduate; other by School permission. Course is taken as an elective. Various title course will selectively expand specific social work content areas. (PR: CC)

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 6125 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 6235 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 6305 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 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 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 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. (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) 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: CC, SOW 6426, SOW 6368, SOW 6535)

SOW 6405 FOUNDATIONS OF SOCIAL WORK RESEARCH AND STATISTICS (3) This is the first of four research methods courses intended to introduce students to the various methods, designs, measurements, and statistical techniques in social work research.

SOW 6425 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 6426 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. (GS in Social Work only)

SOW 6427 FIELD RESEARCH II (1) This is the fourth and final research course. It provides the mechanism for supervision of the graduate research project. (GS in Social Work only)

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 (2-4) 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 6655 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 6900 INDEPENDENT STUDY (1-3) A reading program in selected topics under supervision of a faculty member. A formal contract must be approved by School Director. (PR: Admission to MSW program, CC)

SOW 6931 SELECTED TOPICS IN SOCIAL WORK (1-4) Restricted to MSW students; others by School permission. (PR: CC)

SOCIOLOGY

Chairperson: TBA; *Professors:* C.S. Ellis, S. Stamps, R.H. Wheeler; *Associate Professors:* G.A. Brandmeyer, J. Friedman, B.G. Gunter, R.A. Hansen, M.B. Kleiman, M. Orru; *Assistant Professors:* L. Graham, S. Green, L.W. Kutcher, C. Ponticelli.

SYA 6126 CONTEMPORARY SOCIOLOGICAL THEORY (3) Emphasizes logical and conceptual dimensions of theory and theory construction. (PR: Undergraduate course in sociological theory or CI)

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 CI)

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 (1-3) Designed to help student define and formalize more effective efforts at communicating sociology. Majors only.

SYA 6909 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CC)

SYA 6912 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR, ML, CC)

SYA 6933 SPECIAL TOPICS-SOCIOLOGY (3) Content varies according to interests of students and instructor. Rpt. (PR: CI)

SYA 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CC)

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. (PR: GS)

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 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

Chairperson: L.L. McAlister; *Professors:* J. Ochshorn; *Associate Professors:* M. Myerson, J.B. Snook; *Assistant Professors:* I. Bartsch, G. Grewal, K.M. Vaz; *Courtesy Appointments:* R. Banes, L. Whiteford.

PHM 5125 TOPICS IN FEMINIST PHILOSOPHY (3) Study of recent feminist philosophical approaches to epistemology, aesthetics, or political philosophy. (May be taken for credit in Philosophy.)

WST 5001 FEMINIST RESEARCH AND METHODOLOGY (3) To develop a more comprehensive understanding of the situation of women in society and to develop a theoretical basis for integrating this knowledge into the student's graduate course of study. Available to non-majors; may not be repeated.

WST 5266 WOMEN OF COLOR: ACTIVISM AND SOCIAL CHANGE (3) Intensive reading and discussion of the participation of women of color in contemporary revolutionary and reformist activities.

WST 5318 FEMINIST SPIRITUALITY (3) Open to non-majors. Focuses on the many voices of contemporary feminist spirituality, emerging from women's experiences in diverse religious, ethnic and cultural traditions, and representing a range of theoretical perspectives from biblical feminism to Goddessworship in wicca. (May also be taken for credit in Religious Studies)

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)

WST 6910 DIRECTED RESEARCH (1-3 Var.) S/U Provide graduate students with research experience in areas of specific interest utilizing feminist perspectives and research methods. Rpt. up to 6 hrs. (PR: CC and signed contract)

ZOOLOGY

See offerings under **Biology**.

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)

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)

ZOO 5235 PARASITOLOGY (3) Fundamentals of animal parasitology and parasitism, the biology of selected animal parasites, including those of major importance to man. (PR: BSC 2010C and BSC 2011C)

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)

ZOO 5456C ICHTHYOLOGY (4) Evolution, systematics, structure, behavior, physiology, and ecology of fishes. (PR: Senior or GS; BSC 2010, BSC 2011, ZOO 3713C. PCB 4674 is suggested.)

ZOO 5475C ORNITHOLOGY (4) The biology of birds. Field trips emphasize local avifauna. Lec/Lab. (PR: One year major in Biology)

ZOO 5555C MARINE ANIMAL ECOLOGY (4) Study of energy, flow, biogeochemical cycles, and community structure in marine environments. Lec/Lab. (PR: PCB 4043C)

ZOO 6907 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CI)

ZOO 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CI)

COLLEGE OF BUSINESS ADMINISTRATION

ACCOUNTING/LAW

Director: R.M. Keith; *Professors:* D.M. Dennis, C.W. Dungan, T.J. Engle, J.R. Fellows, G.L. Holstrum, K.L. Hooks, R.M. Keith, G.H. Lander, J. R. Martin, C.J. O'Neil, J.L. Smith, W.L. Stephens, R.J. West; *Associate Professors:* J.F. Bussman, T.J. Engle, L.C. Harris, G. Laursen, W.H. Parrott, J.D. Siebel.

ACG 5201 ADVANCED FINANCIAL ACCOUNTING IV (3) Accounting for business combinations, preparation of financial statements, home office/branch relationships, foreign operations and transactions, partnerships. (PR: ACG 4123)

ACG 5675 INTERNAL AND OPERATIONAL AUDITING (3) The objective of Internal and Operational Auditing is to provide students with an opportunity to learn about the theory and practice of Internal and Operational Auditing and to apply relevant audit principles and techniques to selected audit problems.

ACG 5935 SELECTED TOPICS IN ACCOUNTING (1-4) 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. Not available for credit for graduate students in the Master of Accountancy program.

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 COST ACCOUNTING THEORY (3) Deals with the evolution of cost accounting systems and their subsequent loss of relevance, and the impact of new management accounting philosophies (giving consideration to the influences of the international community) in the modern manufacturing environment. (PR: ACG 3341 or equivalent)

ACG 6405 ACCOUNTING SYSTEMS THEORY (3) Design, operation, and auditing of contemporary accounting systems, including file oriented and data base environments. (PR: ACG 3401 or equiv.)

ACG 6636 CONTEMPORARY ISSUES IN AUDITING (3) This course explores contemporary auditing issues and advanced topics concerning the changing role of the audit assurance function and changing audit processes. Topics include audit reporting, auditing in advanced computerized environments, audit judgment, quality control, and regulation of the profession. (PR: ACG 4632)

ACG 6875 DEVELOPMENT OF ACCOUNTING THOUGHT (3) A study and evaluation of the development and evolution of current accounting theory and measurement concepts. An examination of financial accounting objectives, measurement models, and controversial issues. (PR: 20 hours of accounting or CI)

ACG 6815 ACCOUNTING RESEARCH METHODS (3) Research methods used in accounting, auditing and taxation. Includes paper and electronic information retrieval of primary and secondary research sources. Students will be urged to take this course during their first semester in the Master of Accountancy Program. (PR: TAX 4001)

ACG 6905 INDEPENDENT STUDY (1-19 Var.) Independent Study. Student must have a contract with an instructor. Rpt. S/U. (PR: CC)

ACG 6915 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. M.L, CC)

ACG 6932 INTEGRATIVE ACCOUNTING SEMINAR (3) Use of case studies to explore the interaction of accounting and business topics that have been previously emphasized in separate courses. (PR: Enrolled in final semester of program)

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 (1-4) 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. (PR: Completion of comprehensive exams and CI)

TAX 5011 FEDERAL TAXATION OF BUSINESS ENTITIES (3) Tax issues encountered by small businesses. Includes tax planning, capital formation and preservation, tax compliance and tax alternatives.

TAX 6005 TAXATION OF ENTITIES I (3) This course is the first of a three-course sequence which covers the tax concepts applicable to alternate forms of conducting a business enterprise. The first course covers the formation of a business entity and its operation. (PR: TAX 4001)

TAX 6015 TAXATION OF ENTITIES II (3) This course is the second in a three-course sequence which covers the tax concepts applicable to alternate forms of conducting a business enterprise. The second course covers distributions to owners, sales and exchanges of equity interests, redemptions of equity interests and liquidations of business entities. (PR: TAX 6005)

TAX 6025 TAXATION OF ENTITIES III (3) This course is the third in a three-course sequence which covers the tax concepts applicable to alternate forms of conducting a business enterprise. The third course covers advanced corporation topics including multiple corporations, transfer of corporate attributes, corporate divisions, corporate reorganizations, consolidated corporate tax returns, limitation on corporate loss carry forwards and taxation of foreign corporations and foreign source income. (PR: TAX 6015)

TAX 6445 ESTATE PLANNING (3) This course covers the basics of estate, gift, and trust taxation and introduces the student to tax planning techniques to minimize the tax-burden on inter-generation transfers of wealth. (PR: TAX 4001)

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)

ECONOMICS

Chairperson: J.W. Rowe, Jr.; *Professors:* D. Bellante, T.D. Curtis, J.S. DeSalvo, M.G. Herander, J. Hodgson, P. Porter, J.W. Rowe, Jr., E.W. Shows; *Associate Professors:* J.P. Cooke, E.J. Ford, C.A. Green, E.A. Hanni, J.G. Spence, C.R. Thomas, R.M. Wilson; *Assistant Professor:* B. Kamp, S.S. Lee, G. Picone, J. Racine, J. Swinton.

ECO 6114 MICROECONOMIC ANALYSIS (3) Theory of economic behavior of households and firms, consumer behavior, demand analysis, production and cost, factor markets.

ECO 6115 MICROECONOMICS (3) Microeconomic behavior of consumers, producers, and resource suppliers, price determination in output and factor markets, general market equilibrium. (PR: ECO 3101 or ECO 6114, ECO 4401 or CC)

ECO 6204 MACROECONOMIC ANALYSIS (3) Determination of output, employment, the price level, wages, interest rates, and the rate of economic growth. (PR: ECO 6114, CC)

ECO 6205 MACROECONOMIC THEORY AND POLICY (3) Determination of income, employment, wages, prices, and interest rates, contemporary policy issues, long-run economic growth. (PR: For Master of Accountancy students only)

ECO 6206 AGGREGATE ECONOMICS (3) Advanced macroeconomic analysis of income, employment, prices, interest rates and economic growth rates. (PR: ECO 3203 or ECO 6204)

ECO 6216 MONETARY THEORY (3) Impact of the financial sector on real and nominal economic magnitudes. (PR: ECO 3203 or ECO 6204)

ECO 6305 HISTORY OF ECONOMIC THOUGHT (3) Currents of modern economic thought in the last hundred years. (PR: ECO 3101 or ECO 6114 or CI)

ECO 6424 ECONOMETRICS I (3) Theory and use of multiple regression to estimate relations in causal models, use of standard software packages. (PR: ECO 3203 or ECO 6204, QMB 3200, QMB 6305, or CI)

ECO 6425 ECONOMETRICS II (3) Advanced econometric techniques; model building, estimation and forecasting; design and execution of research projects. (PR: ECO 6424)

ECO 6433 APPLIED FORECASTING (3) Time series and cross sectional data for managerial control forecasting, index numbers, leading economic indicators, econometric studies, linear forecasts. (PR: QMB 6305)

ECO 6505 PUBLIC FINANCE (3) Effects of tax and expenditure policies on resource allocation and income distribution. (PR: ECO 3101 or ECO 6114)

ECO 6525 PUBLIC SECTOR ECONOMICS (3) Introduction to the price system and the allocation of resources, emphasis on market failure and the economic role of government. (No credit for Economics or Business Administration students.)

ECO 6706 INTERNATIONAL TRADE: THEORY AND POLICY (3) Causes of international trade, international trade policy, economic integration, trade problems of developing countries, role of multinational corporations in world trade. (PR: ECO 3101 or ECO 6114)

ECO 6716 INTERNATIONAL MONETARY ECONOMICS (3) International macroeconomic relationships, foreign exchange market, the international monetary system, balance of payments adjustments, macroeconomic policy in the open economy. (PR: ECO 3203 or ECO 6204)

ECO 6906 INDEPENDENT STUDY (1-19 Var.) Independent study. Student must have a contract with an instructor. Rpt. to a maximum of 6 hours. S/U. (PR: CC)

ECO 6917 DIRECTED RESEARCH (1-19 Var.) Rpt. to a maximum of 6 hours. S/U. (PR: GR, ML, CC)

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 (1-19 Var.) Rpt. S/U (PR: CC)

ECO 7116 MICROECONOMICS II (3) Topics in advanced microeconomic theory, including general equilibrium, welfare economics, intertemporal choice, uncertainty, information, and game theory. (PR: ECO 6115)

ECP 6205 LABOR ECONOMICS (3) Labor demand and supply, unemployment, discrimination in labor markets, labor force statistics. (PR: ECO 3101, ECO 6114, or ECO 6115)

ECP 6238 THE ECONOMICS OF COLLECTIVE BARGAINING (3) Process of negotiating collective bargaining agreements in private and public sectors. Not open to students who have completed ECP 4232.

ECP 6405 INDUSTRIAL ORGANIZATION (3) Structure of industry and its effect on economic efficiency. (PR: ECO 3101 or ECO 6114)

ECP 6406 SEMINAR IN INDUSTRIAL ORGANIZATION (3)

ECP 6456 LAW AND ECONOMICS (3) Impact of Tort, Criminal, Property, and Contract Law on the allocation of resources. (PR: ECO 3101 or ECO 6114)

ECP 6614 URBAN ECONOMICS (3) Economics of growth and development of urban areas, intraurban location patterns. (PR: ECO 3101 or ECO 6114)

ECP 6624 REGIONAL ECONOMICS (3) Geographical allocation of resources within and among regions, location of households and firms, interregional migration of labor and capital, regional growth and development, regional policy. (PR: ECO 3101 or ECO 6114)

ECP 6705 ADVANCED MANAGERIAL ECONOMICS (3) Microeconomic analysis for managerial decisions, demand theory, production and cost, industry structure. (PR: ECO 6115 or ECO 6114 and QMB 6305)

FINANCE

Chairperson: R.L. Meyer; *Lykes Professor of Banking and Finance:* J.L. Pappas; *Dean Emeritus:* R.G. Cox; *Professors:* A. Beenhakker, S.E. Bolten, S. Kapplin, R.L. Meyer, A. Schwartz, K. Wieand; *Associate Professors:* S. Besley, S. Bulmash, P. Kares, R.J. Rivard; *Assistant Professors:* D.J. Borgia, J. Qi, R. Sanders, R. Weigand.

FIN 6246 ADVANCED MONEY AND CAPITAL MARKETS (3) The study of the role of financial markets, instruments, and institutions in the economy. It includes the study of flow of funds, interest rate determination, and the pricing of capital assets. (PR: ECO 6204)

FIN 6326 BANK MANAGEMENT (3) Theory, practice and policy of managing commercial banks with emphasis on strategic planning and decision making in banking. (PR: FIN 6406)

FIN 6406 FINANCIAL MANAGEMENT (3) The study of processes, decision structures, and institutional arrangements concerned with the acquisition and utilization of funds by a firm. The course includes the management of the asset and liability structures of the firm under both certainty and uncertainty. (PR: ACG 6025 and ECO 6114)

FIN 6418 WORKING CAPITAL MANAGEMENT (3) This course is designed to provide the student with an understanding of short-term financial management which includes decision making concerning sources and uses of cash flows to support short-term operations. (PR: FIN 6406)

FIN 6445 FINANCIAL POLICY (3) A case study approach to financial policy and strategy with emphasis on the firm's major financial decisions. (PR: FIN 6406 or CI)

FIN 6605 INTERNATIONAL FINANCIAL MANAGEMENT (3) The course provides a foundation for the understanding of financial management of international business. The subjects covered relate to: international finance, multinational business finance, and financial market theory. (PR: FIN 6406 or equiv., CC)

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 6406 or CI)

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 6406, CC)

FIN 6906 INDEPENDENT STUDY (Var.) Students must have a contract with an instructor. Rpt. S/U. (PR: CC)

FIN 6915 DIRECTED RESEARCH (Var.) Rpt. S/U. (PR: GR, ML, CC)

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 CI)

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 6424 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) A study 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 (Var.) Rpt. (PR: Admission to Candidacy)

INFORMATION SYSTEMS AND DECISION SCIENCES

Chairperson: P.H. Cheney; *Professors:* S.J. Birkin, P.H. Cheney, J.S. Hodgson A.R. Hevner; *Associate Professors:* H.C. Allen, J.E. Blanton, R.A. Boggs, M.E. Cohen, T.C. Harrington, E.M. Hufnagel, T.E. Johnson, T.L. Sincich, M.J. White, R.P. Will; *Assistant Professors:* D.J. Berndt, R.W. Collins, T. Nelson, M.B. Prescott, R.K. Satterfield.

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. (PR: CC)

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: ISM 6021 or equiv.; COBOL I or other approved language, CC)

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, CC)

ISM 6217 DATABASE ADMINISTRATION (3) Advanced principles of Database Administration. Database Organization Models. Disaster Planning for Database Files. (PR: ISM 6123 or equiv., CC)

ISM 6225 DISTRIBUTED INFORMATION SYSTEMS (3) Analysis, design, implementation, and management of distributed information systems and networks. (PR: ISM 6123, CC)

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 6021 or equiv., CC)

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., CC)

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: FIN 6406, QMB 6305, QMB 6603, CC)

ISM 6456 MICROCOMPUTERS IN MANAGEMENT (3) Analysis, design, implementation, and management of small business systems/microcomputer systems. (PR: ISM 6021, CC)

ISM 6905 INDEPENDENT STUDY (1-6) Independent Study as directed by designated faculty. Rpt. S/U. (PR: CC)

ISM 6930 SELECTED TOPICS IN MIS (1-6) Selected topics in MIS. Rpt. (PR: CC)

ISM 7120 INFORMATION REQUIREMENTS MANAGEMENT (3) Understanding the theoretical foundation for analyzing problem situations and determining information technology requirements; tools and skill requirements of the systems manager; and methods of managing computer-based information systems. (PR: CC)

ISM 7140 SYSTEMS DEVELOPMENT METHODOLOGIES (3) Realistic in-depth application perspective of the tools and techniques of systems development. (PR: CC)

ISM 7231 FILE ACCESS METHODS AND 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, current trends, potential, interrelationships of artificial intelligence, expert systems, and decision process. (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 (1-6 Var.) Independent study in which student must have a contract with an instructor. Rpt. to 6 hours. S/U. (PR: CC)

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) An examination of recently published empirical research in MIS and related disciplines, focusing on the development of a sound theoretical foundation for hypotheses, selection of appropriate design and statistical techniques, and evaluation of the results. (PR: ISM 7910)

ISM 7930 SELECTED TOPICS IN MIS (1-3) Rpt. up to 9 hours. (PR: CC)

ISM 7931 DIRECTED RESEARCH (1-6 Var.) Rpt. up to 6 hours. S/U. (PR: Ph.D. level, CC)

ISM 7980 DISSERTATION (1-21 Var.) Rpt. to 21 hours. (PR: CC)

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 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, CC)

QMB 6365 APPLIED BUSINESS FORECASTING (3) Logic and application of quantitative forecasting, techniques to problems in business. (PR: QMB 6305 or equiv., CC)

QMB 6375 APPLIED LINEAR STATISTICAL MODELS (3) A study of multi-variate data analysis techniques and their applications to problems and systems in business. (PR: QMB 6305 or equiv., CC)

QMB 6603 QUANTITATIVE METHODS FOR OPERATIONS MANAGEMENT (3) Principles and concepts of production and operation management integrated with quantitative procedures. The study and applications of production and operation management decision-making in the business 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, CC)

QMB 7565 INTRODUCTION TO RESEARCH METHODS (3) A course in research strategies, design, analysis, and measurement for business research. (PR: CC)

QMB 7566 APPLIED MULTIVARIATE STATISTICAL METHODS (3) A course in research analysis and measurement focusing on multivariate statistical analysis techniques. (PR: CC)

MANAGEMENT

Chairperson: G.A. Balfour, Interim; *Professors:* C.F. Cohen, R.E. Dutton, J. Jermier, M. Karlins, J.T. Knippen, W.R. Nord, W.K. Schilit, K. Van Voorhis, T.L. Wheelen; *Associate Professors:* G.A. Balfour, J. Gaines, J. Koehler, N. McIntosh, C.E. Michaels, R.L. Nixon; *Lecturer:* E. Hargis, C. Matthews, R. Miljus.

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: MAN 6055 or CI)

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. (PR: CC)

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: MAN 6055 or CI)

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. S/U (PR: MAN 6055 or CI)

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: MAN 6055 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. (PR: CC)

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. (PR: CC)

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: MAN 6055 or CI)

MAN 6806 ENT BUSINESS MANAGEMENT CSL (1-3)

MAN 6905 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CC)

MAN 6911 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML, CC)

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. (PR: CC)

MAN 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CC)

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: MAN 6055, 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 and 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 7905 INDEPENDENT STUDY IN MANAGEMENT Var. (1-4) Course permits a management doctoral student to conduct research and pursue specific areas of interest with a faculty member as supervisor. Contract required to establish performance levels expected. Rpt. (S/U Only, CC)

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)

MAN 7920 RESEARCH SYMPOSIUM (1)

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 CI)

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 CI)

MAN 7935 SEMINAR IN STRATEGIC MANAGEMENT (3) Introduces basic theoretical issues and empirical research in strategic management. (PR: CC)

MAN 7980 DISSERTATION (1-21) Rpt. (PR: Successful completion of preliminary exams; successful completion of Field Exams in each Major and Secondary field and admission to candidacy for Ph.D. program in Management.)

GENERAL BUSINESS ADMINISTRATION

Faculty listed under department offering course.

GEB 6445 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, CC)

GEB 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CC)

MAN 6806 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: W.B. Locander; *Professors:* R.L. Anderson, S.A. Baumgarten, W.B. Locander, T.E. Ness, D.J. Ortinau, P.J. Solomon, J.R. Stock; *Associate Professors:* E. Arnould, W.A. DeBord, L.R. Duffus, J.R. Goolsby, J.S. Hensel, L. Price, R.R. Ramsey, M.B. Stamps; *Assistant Professors:* G. W. Marshall.

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, CC)

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 CI)

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, CC)

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, CC)

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, ISM 6021)

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: ECO 6114, CC)

MAR 6816 MARKETING STRATEGY (3) A study of strategic marketing planning and problem-solving processes 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, CC)

MAR 6907 INDEPENDENT STUDY (1-19 Var.) Must have a contract with an instructor. Rpt. S/U. (PR: CC)

MAR 6916 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. M.L, CC)

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. (PR: CC)

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. (PR: CC)

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 (1-3) 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. (PR: CC)

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. (PR: CC)

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. (PR: CC)

MAR 7980 DISSERTATION (1-21 Var.) Directed research. (PR: Successful completion of preliminary exams; successful completion of field exam in each major and secondary field; and admission to candidacy for Ph.D. program in marketing.)

COLLEGE OF EDUCATION

ADULT AND VOCATIONAL EDUCATION

Chairperson: W.E. Blank; *Professors:* W.E. Blank, W.B. James, F.F. Johnson; *Associate Professors:* R. Hill, K. Smith; *Assistant Professors:* D.B. Briscoe, D. Gardner, J. Scaglione.

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. 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 6280 ADMINISTRATION IN 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 6360 METHODS OF TEACHING ADULT EDUCATION (3) An exploration of different methods, techniques, and materials available to help adults learn. Concentration 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 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. Concentration on the identification of principles of adult learning, differences between adults and youth as learners, and a review of research on adult learning.

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 6971 THESIS: MASTERS/EDUCATION SPECIALIST (2-19 Var.) Rpt. S/U (Ma/EdS Candidates only)

ADE 7185 COMMUNITY EDUCATION AND PROGRAM DEVELOPMENT (4) Examination of the sociological and economic forces affecting community education programs and activities. The concept of lifelong learning and its relationship to the development of community educational programs is also examined. (PR: GS or CI)

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)

ADE 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admitted to Candidacy)

EDG 6906 INDEPENDENT STUDY (1-19 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 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 5165 PROGRAM MANAGEMENT: DISTRIBUTIVE EDUCATION (3) Organization, coordination, and budgeting of adult, cooperative, and special programs; includes management of the vocational student organization.

INDUSTRIAL AND TECHNICAL EDUCATION

EIV 5315 PROGRAM MANAGEMENT: DIVERSIFIED COOPERATIVE TRAINING (3) Organization, coordination, and budgeting of cooperative and special programs.

EVT 5369 PREPARATION AND DEVELOPMENT FOR TEACHING (4) The development and use of selected instructional materials, educational media, trainers, simulators, and similar instructional resources.

EVT 5664 SCHOOL COMMUNITY DEVELOPMENT (4) 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.

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 adult and vocational education and related areas.

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 discrete developmental needs of the staff as identified by an educational agency.

EVT 6930 SEMINAR (4) Focuses on special topics, interaction with visiting scholars, recent research and major initiatives within the profession.

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. (PR: EDF 6432 or EDF 6481 or CI)

EVT 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U (Ma/EdS Candidates only)

EVT 7066 FOUNDATIONS AND PHILOSOPHY OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION (3) 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) 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 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) Knowledge and skills necessary to participate in the initial determination, planning, organization, and implementation of new or expanded adult, vocational and technical education institutions or programs. (PR: GS or CI)

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)

EVT 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admitted to Candidacy)

CHILDHOOD/LANGUAGE ARTS/READING EDUCATION

Interim Chairperson: F. W. Freshour; *Professors:* B.K. Clarke, S. Helton, S.P. Homan, J.P. Klesius, J. McCarthy, C. Spillman; *Associate Professors:* N.A. Anderson, G.B. Barkholz, M.A. Barksdale-Ladd, F.W. Freshour, P.L. Griffith, P. Hanley, J.R. King, J. Linder, J.T. Polito, J. Swartzman; *Assistant Professors:* L.Boothby, P. Fleege, J. Fountain, B. Frye, S. Gomez-Madison, M. Harrison, M. Hewitt, K. Laframboise, S. Micklo, C. Olliff, K. Oropallo, M. Radencich, N. Ratcliff, R. Short, J. Vander Wilt, M. Wynn; *Instructor:* J. Fountain, C. 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 aesthetic 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.

EDE 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U (MA/EdS Candidates only)

EDE 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admitted to Candidacy)

EDG 6415 PROJECT P.R.I.D.E. (PROFESSIONAL REFINEMENTS IN DEVELOPING EFFECTIVENESS) (3) Topics in academic questioning techniques, nonverbal communication, motivating changes in behavior, managing critical incidents in the classroom, and analyzing typical classroom practices for positive or negative impact. (PR: CC)

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, nonconfrontation strategies, group dynamics, and discipline decision making. (PR: Post-Baccalaureate status, CC)

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. (PR: CC)

EDG 6935 SEMINAR IN CURRICULUM RESEARCH (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)

EEC 6261 ADVANCED PROGRAMS IN EARLY CHILDHOOD EDUCATION (3) 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) 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) 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.

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.

EEC 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt.

EEC 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

LAE 6301 LANGUAGE LEARNING IN CHILDHOOD (3) Research used to assess the language behavior of normal children and application of selected research methodology to understanding linguistic behavior of children.

LAE 6315 TEACHING WRITING IN THE ELEMENTARY CLASSROOM (3) Development of writing, its functions, conventions, and processes, and instructional strategies to be used across the elementary curriculum. Emphasis on both process and products generated by students. Available to majors and nonmajors. (PR: LAE 4314 or LAE 4355 or LAE 4642 or CI)

LAE 6415 LITERATURE AND THE LEARNER (3) Nature, scope, and uses of literature for instructional, information, and recreational purposes and implications of current theory, significant research, and issues in literature study as they relate to the learner.

LAE 6616 TRENDS IN LANGUAGE ARTS INSTRUCTION (3) 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) New research findings and theories relating to language patterns and contemporary programs for teaching language arts. (PR: LAE 6616 or equiv.)

LAE 7746 APPLICATIONS OF THEORIES TO THE DEVELOPMENT OF LANGUAGE ARTS PROGRAMS (3) Application of research findings 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) 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) 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) Approaches, materials, and procedures in Elementary Reading instruction, with emphasis on pertinent research. 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. 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 inservice 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 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) 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 AND WRITING 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) Location of research information, the reading and evaluation of research, and the identification and understanding of important studies. (PR: EDF 6432, EDF 6481, or CI)

RED 6906 INDEPENDENT STUDY: READING EDUCATION (1-6) Independent study in which students must have a contract with an instructor. Rpt. S/U.

RED 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST Var. Rpt.

RED 7048 READING AS A SYMBOLIC PROCESS (3) Seminar designed to develop critical thinking about the reading process and reading acquisition. (PR: RED 6116 or RED 6365, GS or CI)

RED 7745 RESEARCH IN READING INSTRUCTION (3) Seminar examining in depth the current research on instruction in the field of reading education. (PR: RED 6116 or RED 6365, GS or CI)

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.

RED 7980 DISSERTATION: DOCTORAL (2-30 Var.) (Admission to Candidacy)

EDUCATIONAL LEADERSHIP

Interim Chairperson: A. Shapiro; *Professors:* W.F. Benjamin, J.C. Bondi, D.D. Peterson, S.B. Permuth, D.M. Purdom, A. Shapiro, K. Snyder, L. Tuttle, M.G. Villeme, J. Wiles; *Associate Professors:* T.W. Keene, T. Valesky; *Visiting Assistant Professor:* E. Glickman, M. G. Villeme.

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. (PR: EDA 6061)

EDA 6192 EDUCATIONAL LEADERSHIP (3) Administration course that addresses change, influences, and planning systems. Also examines personnel functions for administrators. (PR: EDA 6061)

EDA 6195 POLICY DEVELOPMENT (3) Contemporary research on diffusion of innovations, political power in policy decision making. Role of establishing educational policies. (PR: EDA 6061)

EDA 6232 SCHOOL LAW (3) Basic essentials of School Law. A review of court decisions affecting American education with emphasis on Florida State statutes. (PR: GS, EDA 6061, or CI)

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, EDA 6061, or CI)

EDA 6503 THE 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. (PR: EDA 6061)

EDA 6910 DIRECTED RESEARCH (1-19) S/U. (PR: GS or ML, EDA 6061)

EDA 6931 CASE STUDIES IN SCHOOL ADMINISTRATION (3) Helps prospective administrators understand administrative problems, propose feasible solutions, and evaluate courses of action. Develops skill in decision making. (PR: GS, EDA 6061 or CI)

EDA 6945 ADMINISTRATION PRACTICUM (3-8) Field experiences in school systems for identifying and analyzing educational problems and their solutions. Application of concepts developed in the student's program. (PR: GS, EDA 6061 and completion of a significant amount of the student's program)

EDA 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U

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 6061 or CI)

EDA 7233 LEGAL DIMENSIONS OF SCHOOL ADMINISTRATION (3) Historical perspective in law and education with in-depth reviews of case law showing the evolution of courts as educational policy makers. (PR: GS, EDA 6232, 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)

EDA 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admitted to Candidacy)

EDE 6205 SCHOOL CURRICULUM: ELEMENTARY (3) Organization, curriculum, and instruction of the elementary school with emphasis on the nature of the students served. Open to all education graduate students. (PR: EDG 4620, EDG 6627)

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, CC)

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)

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 6627)

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 6627)

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 6627)

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 CI)

EDG 6947 INTERNSHIP (1-9) Open to graduate degree candidates only. Supervised teaching at the secondary or junior college level as appropriate. S/U (PR: CI)

EDG 6971 THESIS: MASTERS/EDUCATION SPECIALIST (2-19 Var.) Rpt. Interdisciplinary Studies only. S/U

EDG 7667 ANALYSIS OF CURRICULUM AND INSTRUCTION (3) 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 7910 DIRECTED RESEARCH (1-19 Var.) S/U

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 (2-19 Var.) Interdisciplinary Studies only. S/U (PR: Admitted to Candidacy)

EDM 6235 SCHOOL CURRICULUM: MIDDLE (3) Examines the organization, curriculum, and instruction of the middle school with special emphasis on the nature of the students served. Open to all education graduate students. (PR: EDG 4620, EDG 6627)

EDS 6050 PRINCIPLES AND PRACTICES OF EDUCATIONAL SUPERVISION (3) 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) Trains administrators, supervisors, and peer teachers in observing and diagnosing teacher classroom performance, writing remedial plans, conducting post observation conferences, and evaluating performance. (PR: GS, EDS 6050)

EDS 6239 PROBLEMS IN SUPERVISION (3) Analysis of instructional problems in schools. Emphasis on supervisory tasks, case studies, and the application of problem solving techniques and strategies. (PR: GS, EDS 6050 or CI)

EDS 7130 TEACHER EVALUATION: PROCESS AND INSTRUMENTS (3) Examines procedures for establishing content validity, reliability, norms, and predictive validity of teacher evaluation systems. Examines the psychometric qualities of selected instruments. (PR: EDA 6061, EDF 6432, CI)

ESE 6215 SCHOOL CURRICULUM: SECONDARY (3) Examines the organization, curriculum, and instruction of the secondary school with special emphasis on the nature of the students served. Open to all education graduate students. (PR: EDG 4620, EDG 6627)

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. Emphasis on the place and problems of the community junior college.

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. (PR: GS or CI)

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. (PR: GS or CI)

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. (PR: GS or CI)

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.

EDH 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admitted to Candidacy)

EDUCATIONAL MEASUREMENT AND RESEARCH

Chairperson: B.W. Hall; *Professors:* L. Carey, B.W. Hall, C.V. Hines, W.G. Katzenmeyer, D.E. Stone; *Associate Professors:* G. Hutchcraft, J.D. Kromrey; *Assistant Professors:* R. Dedrick, J. Ferron, W.S. Lang, S. Maller, M. Banerji.

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) Basic measurement concepts, role of measurement in education, construction of teacher-made tests and other classroom assessments, interpretation of standardized tests, and fundamental descriptive statistics for use in test interpretation.

EDF 6446 DEVELOPMENT AND VALIDATION OF TESTS IN EDUCATION (3) Design, construction, and validation of state-wide tests. Special emphasis on domain sampling, item response theory, item scaling, item fit, and constructing, maintaining, and updating item banks. (PR: EDF 6432, EDF 6407 or CI)

EDF 6481 FOUNDATIONS OF EDUCATIONAL RESEARCH (3) Analysis of major types of educational research designs, including experimental, correlational, ex post facto and case studies. (PR: EDF 6432, or CI)

EDF 6492 APPLIED EDUCATIONAL PROGRAM EVALUATION (3) Design, development, implementation, interpretation, and communication of both formative and summative educational program evaluation studies. (PR: EDF 6432, EDF 6446, or CI)

EDF 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U

EDF 7408 STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH II (4) Theory and application of statistical procedures to problems in education: (1) ANOVA-factorial; ANCOVA; (2) multiple correlation and regression — a specific technique and a general approach to data analysis. Coordinated use of computer included. (PR: EDF 6407 or requiv. or CI)

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 6407, EDF 7408 or equiv. or CI)

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 6407 or equiv.)

EDF 7438 ADVANCED EDUCATIONAL MEASUREMENT II (4) Scaling techniques in educational and psychological 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, Discriminant Analysis, Multivariate Analysis of Variance, Factor Analysis, and Path Analysis. (PR: EDF 7408 or CI)

EDF 7477 QUALITATIVE RESEARCH IN EDUCATION PART I (4) First of two sequenced seminars examining the theoretical and pragmatic aspects of conducting qualitative research in educational settings. (PR: Advanced GS or CI)

EDF 7478 QUALITATIVE RESEARCH IN EDUCATION PART II (4) Second of two sequenced seminars examining the theoretical and pragmatic aspects of conducting qualitative research. (PR: Advanced GS or CI and EDF 7477)

EDF 7485 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 PROBLEMS IN EDUCATIONAL DATA ANALYSIS (2) Strategies and techniques for data processing and quantitative analysis using statistical software, including data screening, transformation, diagnostic indices, and interpretation. (PR: EDF 7408 or CI)

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 and policy analysis. Application of Networking, PERT, and Modeling procedures to selected problems in education. Emphasis on decision oriented research. (PR: Advanced GS or CI)

EDF 7940 PRACTICUM IN EDUCATIONAL PLANNING, EVALUATION, AND DEVELOPMENT (1-8) Supervised practicum in which the student assumes major responsibility for significant planning, evaluation, research, or development activity. Rpt. up to 8 hours. S/U. (PR: EDF 7408, EDF 7493)

EDF 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

EDG 7910 DIRECTED RESEARCH Var. Rpt. S/U. (PR: GR. Ph.D. level)

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 6906 INDEPENDENT STUDY: MUSIC EDUCATION (1-6)
- MUE 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST Var. Rpt.
- MUE 7815 FOUNDATIONS OF MUSICAL LEARNING AND TEACHING (3)
- MUE 7835 AESTHETICS IN MUSIC EDUCATION (3)
- MUE 7980 DISSERTATION Var. Rpt. (PR: Admitted to Candidacy)

SCHOOL OF PHYS. EDUC, WELLNESS, AND SPORT STUDIES

Director: L.E. Bowers; *Professors:* L.E. Bowers, R. Heeschen, H.A. Hoffman, S.E. Klesius, C.D. Smith; *Associate Professors:* B.L. Beasley, N. Faucette, W.D. Hall, H. Weinberg, J.F. Young.

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 6346 BIO-KINETICS OF HUMAN MOVEMENT (3) Integration of basic kinesiological foundations applied to teaching physical education. Specific topics include: physical growth and neuro-muscular control, laws of physics applied to human movement and the effects of exercise on the muscular and skeletal systems.

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 6419 CLINICAL SUPERVISION IN PHYSICAL EDUCATION (3) Provides specialized knowledge and skills for effective supervision of interns in physical education including observation and feedback techniques and communication skills. (PR: Florida certificate in physical education, 3 years teaching experience in physical education, principal's recommendation.)

PET 6425 CURRICULUM AND INSTRUCTIONAL PROCESS IN PHYSICAL EDUCATION (3) Will provide in-depth study of the structure of subject matter, theoretical curriculum models, 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 6535C PROFESSIONAL ASSESSMENT (3) Personal assessment of current trends and knowledge in the professional literature. Development of competencies in research review, written and oral communication skills.

PET 6645 PHYSICAL EDUCATION FOR THE HANDICAPPED (4) The course is concerned with the motor performance and physical fitness of mentally and motorically 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 CI)

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

Chair: M.J. Curtis; *Professors:* E.C. Anderson, J.W. Barnard, g. Batsche, K.M. Borman, D.E. Bostow, W.W. Burley, M.J. Curtis, J.C. Dickinson, J.C. Follman, O.G. Geiger, E.V. Johanningmeier, E.B. Kimmel, H.M. Knoff, D.L. Lantz, E.E. Panther, S.H. Silverman; *Professor Emeritus:* V.J. Drapela, C. Weingartner; *Associate Professors:* D. Anderson, W.T. Bridges, D.L. Carroll, T.D. Evans, R. Mumme, M. S. Street; *Assistant Professors:* K. Powell-Smith, S. Stollar, T. Richardson.

COUNSELOR EDUCATION

MHS 6006 PRINCIPLES OF THE COUNSELING PROFESSION (4) Required first course for majors in counselor education; an elective for students in other programs. Counseling as a profession; its philosophical framework; its scope and functions; its organization and administration in various settings. (PR: CC)

MHS 6070 STUDY OF MENTAL DISORDERS FOR COUNSELORS (3) A study of mental disorders emphasizing recognition of behavioral symptoms so that counselors may apply appropriate helping approaches or refer clients for further diagnosis and treatment. Intended primarily for counselors working with adult clients. (PR: MHS 6006 or CI)

MHS 6200 APPRAISAL PROCEDURES IN COUNSELING (4) A study of test and non-test techniques of appraisal with emphasis on the use of standardized test data in counseling programs and the use of the individual case study approach. (PR: MHS 6006)

MHS 6340 CAREER DEVELOPMENT (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: MHS 6006)

MHS 6400 COUNSELING THEORIES AND PRACTICES (4) This course is the study of the nature of the counseling process with emphasis on major theoretical approaches and related personality theories, development of basic counseling skills and supervised practice. (PR: EDF 6354 and MHS 6006)

MHS 6420 COUNSELING SPECIAL POPULATION GROUPS (3) Application of counseling theory to work with clients from special population groups, e.g., exceptional students, dropouts, ethnic minorities, women re-entering the labor force, and older persons. Each student will select a specific population group for supervised research. (PR: MHS 6400 or SDS 6411)

MHS 6421 COUNSELING CHILDREN (4) Nature of the counseling process with an emphasis on major theoretical approaches, supervised practice, and application. Focuses on work with elementary age children and consultations with parents and teachers. (PR: EDF 6354 and MHS 6006)

MHS 6430 DYNAMICS OF MARRIAGE & FAMILY SYSTEMS THEORY (4) The major theoretical approaches to systems therapy including strategic, structural, contextual, object-relations and Adlerian models are presented. Also included is the investigation of transgenerational problems and symbolic structures in families as they relate to General Systems Theory. (PR: MHS 6400 or SDS 6411, CC)

MHS 6431 FAMILY THERAPY & TECHNIQUES (4) This course concentrates on the theory and application of intervention techniques to family systems. Structured experiences in interviewing, assessing, making therapeutic interventions, observing family interaction, and developing basic aspects in treating families. (PR: MHS 6430, CC)

MHS 6432 MARRIAGE THERAPY (4) A study of the marriage relationship will be emphasized. Issues of premarital, marital, divorce, intimacy, and conflict management are discussed. Through course activities students are introduced to a wide variety of therapy procedures and intervention strategies. (PR: MHS 6430, CC)

MHS 6480 HUMAN SEXUALITY ISSUES FOR COUNSELORS (4) Emphases include exploration of various dimensions of human sexuality; dynamics of major individual and societal sexuality issues; theoretical approaches to sexuality counseling. (PR: MHS 6400)

MHS 6509 GROUP COUNSELING THEORIES AND PRACTICES (4) An experiential study of group structure, group dynamics, methodology, and leadership models applicable to counseling clients in school and community settings includes skill building through supervised practice. (PR: MHS 6400)

MHS 6601 CONSULTATION FOR THE COUNSELING PROFESSION (3) A study of consultation theory and practice as used by counselors working in schools and mental health facilities, particularly with educators, other professionals, and parents, individually and in groups. Non-majors need instructor's approval. PR: MHS 6400 or SDS 6411

MHS 6780 LEGAL AND ETHICAL ISSUES IN THE COUNSELING PROFESSION (3) A study of legal, ethical and related issues affecting the role and responsibilities of counselors in schools and mental health facilities. (PR: MHS 6606)

MHS 6800 PRACTICUM IN COUNSELING ADOLESCENTS AND ADULTS (4) Supervised counseling for integration and application of knowledge and skills gained in didactic study. S/U (PR: MHS 6400)

MHS 6885 INTERNSHIP IN COMMUNITY AGENCY COUNSELING (6) Field experience involving one semester of full-time participation in the counseling and related activities of a public or private agency providing mental health services to the community. (PR: All required MHS courses.)

MHS 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: CI)

MHS 6930 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: MHS 6006, CI)

MHS 6970 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U (MA/EdS Candidates only)

MHS 7401 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)

MHS 7600 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)

MHS 7840 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)

MHS 7930 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: CI)

MHS 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

SDS 6050 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)

SDS 6501 GROUP THEORY AND PRACTICUM: CHILDREN (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. S/U (PR: SDS 6411)

SDS 6801 PRACTICUM IN COUNSELING CHILDREN (4) Supervised counseling experiences for integration of knowledge and skills gained in didactic study. Focus is on working with elementary age children, parent and teachers. S/U. (PR: CC)

SDS 6820 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)

PSYCHOLOGICAL FOUNDATIONS

EDF 5136 ADOLESCENCE (4) Educational, 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 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 (1-3) Application of group process research to the needs of professional educators and training officers. (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. (PR: CI)

EDF 6167 EXPERIENTIAL LEARNING: THEORY AND METHODS (3) Theory and methods of experiential learning in both formal and organizational contexts. (PR: CI)

EDF 6211 PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (3) Selected topics in psychology of human development and learning, related to schools and educational settings.

EDF 6213 BIOLOGICAL BASES FOR LEARNING BEHAVIOR (3) Human biological development and its influence upon learning and behavior. (PR: One course in Educational Psychology)

EDF 6215 LEARNING PRINCIPLES APPLIED TO INSTRUCTION (4) Learning principles and their application to classroom instruction. (PR: CI)

EDF 6217 BEHAVIOR THEORY AND CLASSROOM LEARNING (4) Theory 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) Knowledge and skills to design, conduct and/or administer, and evaluate both workshops and conferences. (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 COUNSELORS (4) Survey and analysis of major personality theories with emphasis on psycho-social and cognitive development throughout a person's life span.

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 CI)

EDF 7145 COGNITIVE ISSUES IN INSTRUCTION (4) Selected cognitive models of intelligence, memory, problem solving, thinking, and motivation applied to instructional strategies. (PR: Admission to doctoral program and EDF 6215, or CI)

EDF 7227 TOPICS IN BEHAVIOR ANALYSIS AND AUTOMATED INSTRUCTION (1-12) Seminar in experimental analysis of functional relationships between behavior and relevant environmental variables. Interpretation of complex human behavior and formulation of procedures which expedite instruction in educational procedures for computer delivery. (PR: EDF 6215 or EDF 6217 or Advanced Graduate Standing, CI)

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: CI)

EDF 7980 DISSERTATION Var. Rpt. (PR: Admission to Candidacy)

SOCIAL FOUNDATIONS

EDF 5672 AMERICAN DEMOCRACY AND PUBLIC EDUCATION (3) Interdependence of the public school and democracy in the United States.

EDF 6517 HISTORICAL FOUNDATIONS OF AMERICAN EDUCATION (4) 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.

EDF 6520 EDUCATION IN WESTERN CIVILIZATION (4) Educational ideas, institutions, practices and prominent theorists from the western tradition and their continuing influence. (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) Socio-economic factors as they relate to the work of professional educators and the role of public education in American society.

EDF 6705 GENDER AND THE EDUCATIONAL PROCESS (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) Developments in communication as a process of social change as it affects students, teachers, and traditional school arrangements. (PR: CI)

EDF 6765 SCHOOLS AND THE FUTURE (4) Estimates of future demands upon schools; critique of current paradigms, techniques, and literature.

EDF 6812 SEMINAR IN COMPARATIVE EDUCATION (4) Policies and practices in education in selected countries.

EDF 6883 ISSUES IN MULTICULTURAL EDUCATION (4) Lecture/discussion course, open to both majors and non-majors; address both fundamental concepts and timely issues in multicultural education and working with culturally diverse students. (PR: GS and CI)

EDF 7586 CLASSICS IN EDUCATIONAL RESEARCH (4) Examination of the context, methods, and significance of selected research studies in education. (PR: GS; EDF 6517, EDF 6544, EDF 6606, or CI)

EDF 7649 ANALYSIS OF EDUCATIONAL ISSUES (3) Socio-cultural, historical, and axiological examination of selected issues in public education.

EDF 7682 EDUCATION IN METROPOLITAN AREAS (4) Modern public education and its relationship to national development. (PR: EDF 6517, EDF 6544, EDF 6606, or CI)

EDF 7934 SEMINAR IN SOCIAL FOUNDATIONS OF EDUCATION (4) Significant research on socio-cultural issues in Education. (PR: GS; EDF 6517, EDF 6544, or EDF 6606, or CI)

SCHOOL PSYCHOLOGY

SPS 6101 CHILD AND ADOLESCENT BEHAVIOR DISORDERS (4) Theoretical and empirical identification and understanding of children and adolescents with behavior disorders. Treatment issues as they relate to school psychological services. (PR: CI)

SPS 6196 ASSESSMENT OF CHILD AND ADOLESCENT PERSONALITY (4) Conceptualizations of personality and personality assessment; perspectives of disturbed and disturbing behavior, and personality assessment measures. (PR: CI)

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 CI)

SPS 6806 DEVELOPMENTAL BASES OF DIVERSE BEHAVIORS (4) This course deals with some of the major social and educational policy concerns posed by developmental and cultural diversity in our society.

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: CI)

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 CI)

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 CI. Rpt.

SPS 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U (MA/EdS Candidates only)

SPS 7090 SUPERVISION PROCESSES IN SCHOOL PSYCHOLOGY (4) Theory, skills, and practice of supervision in school psychology. (PR: CI)

SPS 7199 ADVANCED PSYCHOEDUCATIONAL ASSESSMENT (4) Advanced topics and techniques in the comprehensive assessment of children and adolescents typically referred for school psychological services. Course may be repeated for credit with different subject matter. (PR: SPS 6197/6198 and SPS 6943/6944, and CI)

SPS 7205 ADVANCED CONSULTATION PROCESSES IN SCHOOL PSYCHOLOGY (4) Advanced topics and techniques in consultation processes for advanced school psychologists. May be repeated for credit with different subject matter. (PR: EDF 6166, or CI)

SPS 7700 ADVANCED PSYCHOEDUCATIONAL INTERVENTIONS (4) Advanced topics and techniques in psychoeducational interventions for children and adolescents referred for school psychological services. Course may be repeated for credit with different content. (PR: SPS 6700/6701 and SPS 6940/6941, and CI)

SPS 7701 ADVANCED CHILD AND ADOLESCENT PSYCHOTHERAPY (4) Covers advanced topics and techniques in child and adolescent psychotherapy relevant to school psychological services. Course may be repeated for credit with different content. (PR: SPS 6702, or CI)

SPS 7936 ADVANCED SEMINAR IN SCHOOL PSYCHOLOGY (1-3) Exploration of current issues and trends in school psychology, as it relates to research and professional practice, and the history and systems of education and psychology. This course may be repeated up to 6 credit hours with different subject matter. (PR: CI).

SPS 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

GENERAL

EDF 6906 INDEPENDENT STUDY: EDUCATIONAL FOUNDATIONS (1-6) Independent study in which students must have a contract with an instructor. Rpt. S/U.

EDF 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. (PR: CC)

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: CI)

EDF 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

SECONDARY EDUCATION

Chairperson: H. E. Steiner; *Professors:* J. Bullock, J. Duplass, C. Engel, H. Johnston, H. Karl, J. Kase-Polisini, D. Puglisi, B. Spector, H. Steiner, A. Troutman; *Professor Emeritus:* B. Lichtenberg, D. Lichtenberg; *Associate Professors:* A. Barron, F. Breit, P. Czyzewski, C. Feyten, J. Kaywell, B. Kazanis, J. Levy, F. Prince, S. Schurr, J. White; *Assistant Professors:* R. Austin, M. Chappell, B. Cruz, R. Fuller, J. Golub, D. Thompson; *Instructor:* J. Nutta; *Lecturer:* E. Snow.

MIDDLE GRADES EDUCATION

EDM 6622 CLIENT CENTERED MIDDLE SCHOOLS (3) Combination lecture/discussion/independent study course that examines in depth the current research on needs/characteristics of the early adolescent and its implications for both organization of the middle grade school and its delivery of curriculum and instruction. Majors Only.

EDM 6623 RESPONSIVE MIDDLE SCHOOL PROGRAMS (3) Combination lecture/discussion/individual study course that examines in depth the current research on both the interdisciplinary team/advisory concepts and how these organizational patterns can promote thinking skills and integration of subject matter throughout the curriculum. (PR: EDM 6622)

EDM 6624 EFFECTIVE INSTRUCTION FOR MIDDLE SCHOOLS (3) Combination lecture/discussion/individual study course that examines in depth the current research on both alternative instructional strategies and assessment practices that are successful with middle level students. (PR: EDM 6622 and EDM 6623)

EDM 6935 MIDDLE SCHOOL ISSUES SEMINAR (1-3) Combines discussion/individual study seminar modeling the advisory concept in a university setting and examining the current research on a variety of important trends/issues affecting middle level education.

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 6746 BASIS OF INQUIRY INTO ARTISTIC MIND (3) An in-depth study of the contemporary basis of inquiry into artistic mind including a multi-disciplined review of literature and research in art education. Includes a visual inquiry project.

ARE 6844 EXPERIENTIAL AND THEORETICAL BASIS OF ARTISTIC MIND (3) Experiential and theoretical explorations into past and contemporary philosophies and practices in art and art education.

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 the student's particular goals and will be approved by the student's graduate advisor. (PR: Certification in English and/or Mass Communications and approval of graduate advisor)

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)

LAE 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U

FOREIGN LANGUAGE EDUCATION

FLE 6665 CURRENT TRENDS IN SECONDARY FOREIGN LANGUAGE EDUCATION (3) Designed for experienced classroom teachers, theoretical and practical implications of recent programs and methodology. Instructional practices in the teaching of foreign languages. Individual projects. (PR: FLE 4332/4333 or teaching experience. Fluency in the target language and in English.)

INSTRUCTIONAL TECHNOLOGY

CGS 6210 MICROCOMPUTER HARDWARE SYSTEMS FOR EDUCATION (3) This course focuses on the development of an understanding of microcomputer hardware that allows individuals to teach as well as make decisions concerning purchase, repair, and appropriate use. Topics include: basic concepts of digital electronics, the operation of a digital computer system, major categories of computer peripherals, historical development of electronic computers, and selection and maintenance of computers in an educational setting. (PR: Computer literacy)

EDF 6284 PROBLEMS IN INSTRUCTIONAL DESIGN FOR MICRO COMPUTERS

(3) This course focuses on the systematic design of instructional courseware, including analysis, media selection, and evaluation. Topics include instructional strategies, screen design, response analysis, feedback and interactivity. (PR: Computer literacy)

EME 5403 MICROCOMPUTERS IN EDUCATION (3) A survey course designed to introduce practicing teachers to microcomputer technology and its function in the classroom to augment the teaching and learning processes. Objectives include the use and evaluation of educational software, classroom use of computers, instructional computing research, generic applications software (word processors, database managers, etc.), programming, disk operating systems, and microcomputer hardware.

EME 6425 MICROCOMPUTERS FOR SCHOOL MANAGEMENT (3) This course provides information and skills necessary for administrators and teachers to effectively use the computer and application software to manage information. Students use programs such as word processors, database managers, and spreadsheets to facilitate management tasks at the school and classroom level. In addition, general computer education topics are covered which provide for the computer literacy of school administrators.

EME 6613 DEVELOPMENT OF TECHNOLOGY-BASED INSTRUCTION (3)

Application of computer-based instructional design principles to the development of technology-based instruction. This course also incorporates state-of-the-art materials and methods involving digital technologies. (PR: EDF 6284 or CI)

EME 6930 PROGRAMMING LANGUAGES FOR EDUCATION (3)

Development of concepts, strategies, and materials for using programming languages in educational settings. Separate sections will focus on different programming languages such as LOGO, BASIC, Hyperscripting, Pascal, Advanced Pascal. (PR: Computer literacy)

EME 6936 APPLICATIONS OF COMPUTERS AS EDUCATIONAL TOOLS (3)

Selected topics in the application of computing and related technology to the teaching and learning processes. Separate sections will focus on topics such as telecommunications, image and sound processing, interactive media, artificial intelligence, data acquisition, and information systems. (PR: Computer literacy)

EME 7938 COMPUTER-AUGMENTED INSTRUCTIONAL PARADIGMS IN EDUCATION (3)

Seminar examining theory and application of computers and related technology in teaching and learning. (PR: Admission to program or CI)

EME 7939 RESEARCH IN TECHNOLOGY-BASED EDUCATION (3)

Seminar examining in-depth research on the uses of computers and related technology on teaching and learning. Also includes investigation on role of computers and related technology as research instrumentation. (PR: Admission to program or CI)

EME 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

MATHEMATICS EDUCATION

MAE 6136 CURRENT TRENDS IN SECONDARY MATHEMATICS EDUCATION

(3) Curricular patterns and instructional practices in secondary mathematics. (PR: MAE 4330 or CI)

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 CI)

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 the human search for an understanding of the realities of the world. Different "ways of knowing" are compared. May be taken as SCE 6761. (PR: Advanced GS or CI)

MAE 6738 MATHEMATICS AND SCIENCE EDUCATION POLICY, CHANGE, AND SCHOOL IMPROVEMENT (3) Knowledge, skills, and strategies are developed to become a facilitator of change for mathematics and science school improvement. Original change initiatives are designed and implemented. May also be taken as SCE 6738. (PR: EDF 7655 or Advanced GS or CI)

MAE 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U

MAE 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

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) Generates new perspectives on research by comparing research techniques in mathematics, natural sciences, and mathematics and science education, and by matching mathematics, science and technology questions to appropriate research paradigms. (PR: 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) Knowledge, skills, and strategies are developed to become a facilitator of change for mathematics and science school improvement. Original change initiatives are designed and implemented. May also be taken as MAE 6738. (PR: EDF 7655 or 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 the human search for an understanding of the realities of the world. Different "Ways of Knowing" are compared. May also be taken as MAE 6735. (PR: Advanced GS or CI)

SCE 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U

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)

SCE 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

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 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 6645 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. (PR: CC)

THEATRE EDUCATION

EDG 6329 CREATIVE DRAMA IN A DEVELOPMENTAL CONTEXT (3) Theories and methods of applying three major approaches of creative drama to the use of improvised drama from kindergarten through secondary school. The course will involve students in applying the drama process as a teaching method which can be applied by classroom teachers of elementary, middle and high school.

THE 6720 DRAMA IN ELEMENTARY SCHOOL (3) Methods of using theatre and drama activities in elementary school, including use of drama and theatre for interdisciplinary, integrated projects. Available to majors and non-majors, no extra laboratory sections.

THE 6730 CURRENT TRENDS IN THEATRE EDUCATION (3) A study of curricular patterns and instructional practices in K-12 theatre education, including methods of teaching theatre aesthetics through the study of plays and their production, adoption of state and national standards, methods of assessment and utilization of media in theatre education.

THE 6736 METHODS OF DIRECTING THE HIGH SCHOOL PLAY (3) Directing the high school play including script selection, analysis and interpretation, audition and casting procedures, composition, picturization, staging movement, rhythm and pacing, pantomimic dramatization, organizing and conducting rehearsals.

THE 6930 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)

GENERAL

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:* M. Churton, B.C. Epanchin, E. Guetzloe, H.W. Heller, C.D. Lavelly, K. Marfo, A.J. Mauser, J.L. Paul, T. Rose, S.P. Singh; *Associate Professors:* A. Cranston-Gingras, H.A. Sproles, K. Stoddard, D. Thomas; *Assistant Professors:* M. Greene, D. Harris, L. Houck, B. Loeding, H. Rosselli, L. Smith, B. Townsend; *Senior Research Scholars:* W.C. Morse, W.C. Rhodes; *Joint Faculty:* N. Berger, J. Blackman, L. Bowers, A. Boyd, H. Clark, A. Duchnowski, G. Dunlap, R. Friedman, M. Hernandez, S. Klesius, S. Silver, T. Stokes.

EED 6211 EDUCATIONAL STRATEGIES FOR STUDENTS WITH BEHAVIOR DISORDERS (3) Advanced methods and materials for planning, implementing, and evaluating educational interventions with students with behavior disorders. (PR: CI) (For certification)

EED 6215 ADVANCED THEORIES AND PRACTICES IN BEHAVIOR DISORDERS (3) In-depth study of specific behavioral disorders of children and youth, with an emphasis on educational implications and interventions. (Fall)

EED 6246 EDUCATING THE AUTISTIC STUDENT (3) Developing and managing appropriate and effective educational programs and techniques for students who have autism. (PR: GS, introductory course in educating exceptional students; Psycho-educational assessment) (Spring)

EED 6943 SUPERVISED PRACTICUM IN BEHAVIOR DISORDERS (1-12) Supervised graduate practicum experiences with children who have behavior disorders. (For students seeking certification only). S/U. (PR: CI) (Fall and Spring)

EEX 5705 SEMINAR IN PRESCHOOL HANDICAPPED (2) Intended to familiarize the education student with the wide range of needs and services of the preschool children with disabilities and their families and how they coordinate with educational services. (Fall and Spring)

EEX 5752 WORKING WITH FAMILIES: A PLURALISTIC PERSPECTIVE (3) The impact of the socio/cultural environment on the education of at-risk children and children with disabilities; family systems theory, principles of multi-cultural education, strategies for working effectively with families of school-age children, diverse cultures and family structures represented in school populations today. (PR: GS or CI) (Spring)

EEX 6025 FOUNDATIONS OF SPECIAL EDUCATION (3) Survey of all exceptionalities including current trends and issues related to the field of special education. (Fall)

EEX 6222 ADVANCED PSYCHOEDUCATIONAL ASSESSMENT OF EXCEPTIONAL STUDENTS (3) Theory and methodology associated with norm-referenced, criterion-referenced, curriculum-based, ecological, and psychoneurological assessment procedures for exceptional students. (PR: GS, introductory courses in exceptional student education and educational assessment) (Fall & Spring)

EEX 6245 TRANSITIONAL PROGRAMMING FOR THE ADOLESCENT AND YOUNG ADULT EXCEPTIONAL STUDENT (3) Procedures for implementing educational programs with exceptional adolescents. Includes educational programming, alternative programs, community resource coordination, career/occupational education, and advocacy. (PR: GS, introductory course in educating exceptional students) (Spring)

EEX 6248 INSTRUCTIONAL APPROACHES FOR EXCEPTIONAL POPULATIONS (3) In-depth study of instructional strategies that are effective when teaching students with emotional disturbance, mental retardation, and learning disabilities. Content includes techniques for curriculum adaptation, IEP development; direct, data-based and metacognitive strategy instruction; and micro-computer applications. (PR: GS or CI) (Spring)

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) (Fall)

EEX 6526 GRANTSMANSHIP (3) Fundamental skills for obtaining external funding of training, service, and research projects in education and the social sciences. Includes locating and communicating with sponsors, developing proposals, and preparing budgets. Emphasis is on grantsmanship in an academic environment. (PR: Advanced GS or CI) (Spring)

EEX 6612 MANAGEMENT AND MOTIVATION OF EXCEPTIONAL AND AT-RISK STUDENTS (3) Focuses on approaches to classroom management and motivational strategies when working with exceptional students. Content includes applied behavior analysis techniques, psychoeducational approaches, and social skills training. Available to non-majors. (PR: GS) (Spring)

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: CI) (Fall)

EEX 6732 CONSULTATION AND COLLABORATION IN SPECIAL EDUCATION (3) Theories of consultation and collaboration. Overview of service delivery models in special education. (PR: Introductory course in special education, GS or CI) (Fall)

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. (Fall)

EEX 6939 ADVANCED SEMINAR: PARADIGMS, PRACTICES, AND POLICIES IN SPECIAL EDUCATION (3) An advanced graduate seminar stressing cross-categorical relationships. Topics include research that deals with paradigms for providing service, service models, and legal mandates. (PR: Students should be in the last semester of coursework for master's degree.) (Spring, CC)

EEX 6943 PRACTICUM IN EXCEPTIONAL STUDENT EDUCATION (1-4) Supervised field work in exceptional student education with children (including preschool handicapped) who have learning disabilities, mental handicaps, emotional and behavioral disabilities, physical disabilities, or multiple disabilities. Rpt. up to 12 hours. S/U. (PR: Admission to Master's Degree Program in Special Education and CI) (Fall & Spring)

EEX 6971 THESIS: MASTERS/EDUCATIONAL SPECIALIST (2-19 Var.) Rpt. S/U

EEX 7203 EDUCATIONAL IMPLICATIONS OF PSYCHOSOCIAL ASPECTS OF EXCEPTIONAL CHILDREN (1-5) This course will be concerned with the identification of the psycho-social needs and characteristics of exceptional children; opportunity of analysis of the educational implications of these needs and characteristics. Rpt. up to 5 hours. (PR: CI)

EEX 7301 SELECTED TOPICS IN SPECIAL EDUCATION (1-8) Identification and study of ethical and research issues in special education. Opportunity will be provided for the student to gather and process data, as appropriate, 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 and research methods used 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 THEORY IN THE PREPARATION OF SPECIAL EDUCATION SPECIALISTS (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: CI)

EEX 7911 SPECIALIZED STUDY IN: MENTAL RETARDATION, BEHAVIOR DISORDERS, SPECIFIC LEARNING DISABILITIES, AND GIFTED EDUCATION (1-8) The specialized study enables advanced exploration of knowledge in an area of interest to the student in special education. May be repeated for a maximum of 8 hours. (PR: CI)

EEX 7980 DISSERTATION (2-30 Var.) Rpt. (PR: Admission to Candidacy)

EGI 5051 NATURE AND NEEDS OF THE GIFTED (3) This survey course examines the characteristics and educational needs of children and youth who are gifted, including those from special populations. Emphasis is on giftedness as defined historically, nationally and locally. The course also explores changing views of intelligence and talent development related to policy and practice in gifted education as well as the processes of identification and programming. (Fall)

EGI 5325 CREATIVE PROBLEM SOLVING FOR THE CHILD (3) This course explores the concept of creativity, its factors, related theories, measurement, and nurturance. A focus on formal and informal applications will include educational programs, curriculum and strategies. (Summer)

EGI 6232 ADVANCED EDUCATIONAL STRATEGIES FOR THE GIFTED (3) Curriculum adjustments, methods and techniques, as well as classroom organizations necessary for teaching students who are gifted will be the focus of this course. Emphasis will also be on curriculum in gifted programs within the context of school reform and restructuring. (PR: EGI 5051) (Spring)

EGI 6416 CONSULTATION, COUNSELING, AND GUIDANCE SKILLS FOR GIFTED STUDENTS (3) Primary emphasis of this course will be to provide an awareness, knowledge, and understanding of the unique guidance and counseling needs of students who are gifted and talented or from special populations.

EGI 6936 SEMINAR IN EDUCATION OF THE GIFTED: SPECIAL POPULATION (3) This seminar will provide a critical survey of the research, issues, policy, ethics, and practices related culturally diverse, economically disadvantaged, limited, english proficient, twice exceptional, highly gifted, or very young.

EGI 6943 SUPERVISED PRACTICUM IN GIFTED EDUCATION (1-12) Planned experiences working with students who are gifted, program development and administration, or an individualized inquiry of a specific issue related to gifted education. (PR: CC)

ELD 6015 ADVANCED THEORIES AND PRACTICES 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)

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) (For certification)

ELD 6943 PRACTICUM WITH LEARNING DISABILITIES (1-12) Supervised experiences with children who have learning disabilities. S/U. (PR: CC) (Fall & Spring)

EMR 6052 ADVANCED THEORIES AND PRACTICES 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)

EMR 6303 EDUCATIONAL STRATEGIES FOR THE MENTALLY RETARDED (3)
In-depth study of the specific curriculum and methodological problems in teaching students with mental retardation. (For certification)

EMR 6943 GRADUATE SUPERVISED PRACTICUM IN MENTAL RETARDATION
(1-12) Supervised graduate practicum encompassing teaching and supervising experiences in public school classes for students with mental retardation. (For students seeking certification only, CC)

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 CI)

EPH 5321 EDUCATIONAL STRATEGIES FOR PHYSICALLY AND MULTI-HANDICAPPED STUDENTS (3) Educational management of students with cerebral palsy, motor disabilities, and multiple disabilities conditions, including rehabilitation and other community services. (PR: EPH 5051)

EPH 6944 SUPERVISED PRACTICUM IN MOTOR DISABILITIES (3-12) Supervised graduate practicum encompassing teaching and supervising experiences in public/private educational or vocational programs for students with physical disabilities in the classroom, hygiene, and educational implications. (For students seeking certification only.) (PR: EEX 3010 or CI)

COLLEGE OF ENGINEERING

BASIC AND INTERDISCIPLINARY ENGINEERING

CGN 6405 NUMERICAL METHODS IN ENGINEERING ANALYSIS (3) Application of computational and mathematical techniques and principles to advanced engineering problems. (PR: EGN 4420)

EGN 5421 ENGINEERING ANALYSIS I (3) Vector methods in electromagnetism and fluid mechanics. Vector operators, line and flux integrals, potential and transport theorems, applications. (PR: MAP 4302 or CC)

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, majors only)

EGN 5423 ENGINEERING ANALYSIS III (3) Finite fields and coding applications. Probabilities of error detection and correction. Introduction to neural networks. Advanced matrix algorithms: LU and QR factorizations, least-squares, pseudoinverses. (PR: EGN 4450 or CC, majors only)

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, majors only)

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, majors only)

EGN 6245 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY (3) An introduction to the Scanning Electron Microscope including sample preparation, instrumentation, interpretation of results, and applications. Material science samples will be selected for the study. Emphasis will be on individual research applications.

ESI 6247 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.)

CHEMICAL ENGINEERING

Chairperson: R. Gilbert; *Professors:* J.C. Busot, L.H. Garcia-Rubio, J.A. Llewellyn, C.A. Smith, A.K. Sunol; *Associate Professors:* V.R. Bhethanabotla, S.W. Campbell, R. Gilbert, W.E. Lee, III; *Courtesy Appointments:* R.S. Braman, J.E. Fernandez, P. Fletcher, D.P. Greewald, R. Heller, D.E. McMillan, J. Scharf.

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 5285 TRANSPORT PHENOMENA (3) Basic descriptive equations of fluid, heat, and mass transport. Description and solution to intermediate problems, including unsteady state and multidimensional systems. Estimation of transport and convective coefficients. (PR: Senior or GS in Engineering)

ECH 5320 ENVIRONMENTAL REACTING SYSTEMS (3) Application of chemical reaction engineering principles to problems in environmental engineering. Basic chemical kinetics and the modeling of batch and continuous systems. Applications will include containment fate and transport and remediation.

ECH 5324 AUTOMATIC PROCESS CONTROL II (3) Root Locus and Frequency Response Methods. Ration, Cascade, Feedforward, Selective, Override and Multivariable Control. Z-transforms and discrete controllers including PID, Dahlin and dead time compensation. 2 hrs lec., 3 hrs. lab/week. (PR: ECH 4314 or CI, majors only)

ECH 5740 THEORY AND DESIGN OF BIOPROCESSES (4) Introduction to biotechnology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biosystems. (Open to majors and nonmajors, CI)

ECH 5742 PHARMACEUTICAL ENGINEERING (2) Introduction to pharmaceutical engineering, including dosage forms (tablets, capsules, powders, liquids, topical forms, and aerosols), excipients, regulatory issues, clinical studies, and good manufacturing practices. (PR: Senior or GS in Engineering or CI).

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.

ECH 5747 SELECTED TOPICS IN BIOTECHNOLOGY (1-3) Selected topics in chemical biotechnology, including pharmaceutical engineering, immobilized enzyme technology, food engineering, and fermentation. Open to majors and non-majors with CI. May be repeated for credit as subjects vary. (PR: Senior or Graduate in Engineering or CI).

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 CI. Rpt. as subjects vary. (PR: GS in Engineering)

ECH 5820 PRODUCT DEVELOPMENT (2) Introduction to the development of consumer products, including the history of innovation, creativity development, the product development environment, and a detailed examination of several product areas. (PR: Senior or GS in Engineering or CI)

ECH 5910 DIRECTED RESEARCH IN BIOENGINEERING (1-3) Directed research in an area of biomedical engineering or engineering biotechnology. (PR: CI)

ECH 5930 SELECTED TOPICS (1-4) (PR: CC, Majors only)

ECH 5931 SELECTED TOPICS (1-4) (PR: CC, Majors only)

ECH 6105 ADVANCED THERMODYNAMICS I (3) Selected topics in classical and irreversible thermodynamics. (PR: CC, Majors only)

ECH 6107 SELECTED TOPICS IN ADVANCED THERMODYNAMICS (3) Advanced selected topics in Ch.E. Thermodynamics such as; molecular and statistical thermo, adv. phase and chemical equilibria, etc. (PR: GS or CI)

ECH 6230 ADVANCED MASS TRANSFER (3) Advanced topics in mass transfer, including the mathematical description and solution of homogeneous and heterogeneous reacting systems, unsteady state, simultaneous heat and/or fluid transfer, particulate processes, and interfacial transport. (PR: ECH 5285 or equiv.)

ECH 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)

ECH 6515 REACTING SYSTEMS (3) Economic factors in the design of chemical reactors. Simulation of complex reacting systems. (PR: ECH 4415 or CI)

ECH 6616 COMPUTER-AIDED PROCESS ENGINEERING I (3) Plant and process design with emphasis on computer-aided design. (PR: ECH 4615)

ECH 6749 BIOMATERIALS AND BIOCOMPATIBILITY (3) Physical and chemical properties of biomaterials, failure mechanisms, performance in vivo, interfacial phenomena and biocompatibility, including host response to implants. Also will discuss the regulatory aspects of biomaterials. (PR: CI)

ECH 6906 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR, ML)

ECH 6907 INDEPENDENT STUDY - VARIABLE TITLE (1-19 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 (1-19 Var.) (PR: CC)

ECH 7915 DIRECTED RESEARCH (1-19 Var.) GR Ph.D. level. Rpt. S/U. (PR: CC)

ECH 7980 DISSERTATION: DOCTORAL (1-19 Var.) (PR: Admission to Candidacy)

EML 6145 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)

EML 6154 ADVANCED CONDUCTION ANALYSIS (3) Multi-dimensional heat transfer. Emphasis on solution techniques, exact and numerical. (PR: CI)

EML 6157 RADIATION (3) Review of basic principles of radiation, grey bodies and real surfaces, calculation of shape factors, absorbing gases. (PR: CI)

EML 5395 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)

CIVIL AND ENVIRONMENTAL ENGINEERING

Chairperson: W.F. Echelberger, Jr.; *Professors Emeritus:* J.E. Griffith, B.E. Ross; *Professors:* M.W. Anderson, R.P. Carnahan, W.C. Carpenter, W.F. Echelberger, Jr., S.C. Kranc, R.J. Murphy, L. Oline, A. Sagues, R. Sen; *Associate Professors:* M. Gunaratne, M.A. Ross, R.I. Stessel, A. Zayed; *Assistant Professors:* D. Bonnin, J.F. Devine, J.T. Franques, S. Hassiotis, J.J. Lu, R.O. Mines, Jr., R.M. Pendyala; *Courtesy Appointments:* G.L. Brosch, F.R. Jones, S.E. Polzin, J.B. Rose, R.C. Sheck, F.L. Young.

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, majors only)

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, majors only)

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, majors only)

CES 5105C 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, majors only)

CES 5209 STRUCTURAL DYNAMICS (3) Behavior of structural components and systems when subjected to periodic dynamic loads. (PR: CES 4001, majors only)

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, majors only)

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, majors only)

CES 6116 FINITE ELEMENT METHODS I (3) Finite element methods in solid mechanics. Applications to beams, frames, trusses, and plane stress and plane strain problems. Theory and computer modeling are covered. (PR: CI, majors only)

CES 6117 FINITE ELEMENT METHODS II (3) Finite element methods in continuum mechanics. Theory and computer modeling of linear and non-linear problems are covered. Topics include large deflection problems, plasticity, creep, heat transfer, plates and shells, stability and dynamics. (PR: CES 6116, majors only)

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, majors only)

CES 6326 DESIGN OF CONCRETE BRIDGES (3) Bridge Classification, AASHTO loads and load combinations, load distribution, design of typical superstructures and substructures for concrete and prestressed bridges. (PR: CES 4702, CES 5715)

CES 6609 ADVANCED STRUCTURAL DESIGN I (3) Advanced topics in steel design. Topics covered include connection design, torsion of wide range sections, and optimum structural design. (PR: CES 6116, majors only)

CES 6726 ADVANCED STRUCTURAL DESIGN II (3) Advanced topics in concrete designs. Topics include torsion two way floor systems, composite construction, slabs on grade, and deep beams. (majors only)

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, majors only)

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, majors only)

CGN 6405 NUMERICAL METHODS IN ENGINEERING ANALYSIS (3) Application of computational and mathematical techniques and principles to advanced engineering problems. (PR: EGN 4420, majors only)

CGN 6906 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: CC, majors only)

CGN 6915 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. M.L., majors only)

CGN 6933 SPECIAL TOPICS IN CIVIL ENGINEERING AND MECHANICS (1-4) (PR: CC, majors only)

CGN 6939 CIVIL ENGINEERING AND MECHANICS SEMINAR (1-4) (PR: CC, majors only)

CGN 6941 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. (majors only)

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. (majors only)

CGN 6971 THESIS: MASTER'S (1-19 Var.)

CGN 7915 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. Ph.D. level, majors only)

CGN 7980 DISSERTATION DOCTORAL (1-19 Var.) S/U (PR: Admission to Candidacy, majors only)

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, majors only)

CWR 6239 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: CWR 6820 majors only)

CWR 6305 URBAN HYDROLOGY (3) A study of the quantity and quality problems and solution techniques associated with urban runoff. (PR: CI, majors only)

CWR 6534 COASTAL AND ESTUARY MODELING (3) Digital modeling of coastal and estuary systems, currents tide heights, sediment transport, erosion, data collection, temperature distribution, source and sinks. Special emphasis on Florida regions. (PR: CI, majors only)

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. (Majors only)

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, majors only)

CWR 6820 COASTAL WAVES AND STRUCTURES (3) Fundamentals of wave motion and the mutual interaction of waves and structures. A design project is included. (PR: CI, majors only)

EGM 6656 THEORY OF ELASTICITY (3) Classical and contemporary elasticity theory with applications to engineering problems. (PR: CES 6116, majors only)

EGM 6796 PLATES AND SHELLS (3) Elastic behavior of thin plate and shell structures. (PR: CES 6116, majors only)

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, majors only)

ENV 5105 AIR RESOURCE MANAGEMENT (3) Air pollution source impacts on ambient air quality, modeling, regulatory approaches, source strategic controls and surveillance. (PR: CI, majors only)

ENV 5345 SOLID AND HAZARDOUS WASTE CONTROL (3) Introduction to solid and hazardous waste management; regulatory concepts, waste types and quantities, and waste collection. Disposal techniques, facility siting, volume reduction, landfill design, incineration and heat recovery, contaminant generation and transport, and remedial action. (PR: CI, majors only)

ENV 5614 ENVIRONMENTAL RISK ANALYSIS (3) Study of comprehensive application of risk analysis techniques for environmental control and protection purposes. (PR: CI, majors only)

ENV 6334 REMEDIAL ACTION IN ENVIRONMENTAL ENGINEERING (3) Covers the clean-up of sites contaminated with hazardous waste. Begins with regulations and related definitions; follows with the objectives of remedial action and site investigations. Focuses on the unique aspects of the implementation of treatment technologies in situ on site, and off-site. (PR: ENV 5345 and one of the following: ENV 6347, ENV 6519, ENV 6558; or CI, majors only)

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 CI, majors only)

ENV 6438 NATURAL SYSTEMS WASTE MANAGEMENT (3) A study of the theory, analysis and design of natural aquatic systems to treat wastewater. Emphasis is on use of treated and partially treated wastewater or residues to enhance, restore, or create wetlands, as well as land application. (Majors only)

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: CI, majors only)

ENV 6539 SLUDGE TREATMENT & DISPOSAL (3) Examines the physical, chemical, and biological unit operations and processes utilized in treating and disposing of sludges produced at water and wastewater treatment facilities. (PR: ENV 6215, ENV 6135, or CI, majors only)

ENV 6558 INDUSTRIAL AND HAZARDOUS WASTE 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 CI, majors only)

ENV 6666 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: CI, majors only)

ENV 6667 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. (PR: CI, majors only)

TTE 5501 TRANSPORTATION PLANNING & ECONOMICS (3) Fundamentals of urban transportation planning: trip generation, trip distribution, modal split, traffic assignment. Introduction to environmental impact analysis, evaluation and choice of transportation alternatives. (PR: College Algebra, & CI).

COMPUTER SCIENCE AND ENGINEERING

Chairperson: A. Kandel; *Professors:* K. Bowyer, H. Glass, A. Kandel, R. Perez, M. Varanasi; *Associate Professors:* S. Al-Arian, D. Goldgof, L. Hall, P. Maurer, L. Piegl, N. Ranganathan, D. Rundus; *Assistant Professors:* L. Kurian, S. Mahadevan, S. Sarkar.

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, majors only)

CAP 5625 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, CI or GS, majors only)

CAP 6100 HUMAN COMPUTER INTERFACE (3) Introduction to the design and evaluation of interface between a computer based application and a human user. (PR: CI)

CAP 6415 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, majors only)

CAP 6610 COMPUTATIONAL LEARNING THEORY (3) An analysis of learning algorithms within certain computational learning models. Topics include Valiant's learning paradigm, convergence in the limit, decision theory, and other areas related to the theory of machine learning. (PR: CAP 5600, CI, majors only)

CAP 6615 NEURAL NETWORKS (3) Defines models of artificial neural networks, compares these models, and investigates the relationship of neural network learning to other symbolic learning methods. (PR: CAP 5600, CI)

CAP 6638 GEOMETRIC/STATISTICAL PATTERN RECOGNITION TECHNOLOGY (3) (PR: CI)

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 5405 MODELING COMPUTER SYSTEM PERFORMANCE I (3) Ability to program computers in a higher level language. Development of models based on queuing 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 5406 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 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. Requires completed contract prior to enrollment. S/U. (PR: GS, majors only)

CEN 6016 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, majors only)

CEN 6017 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: CEN 6010, majors only)

CIS 6900 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. Requires completed contract prior to enrollment. S/U. (PR: GS, majors only)

CIS 6910 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: CI, majors only)

CIS 6911 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, majors only)

CIS 6930 SPECIAL TOPICS (3) (PR: CI)

CIS 6935 GRADUATE COMPUTER SCIENCE AND ENGINEERING SEMINAR (1-4) Seminar for students in computer science and engineering. Rpt. S/U. (PR: CI)

CIS 6940 GRADUATE INSTRUCTION METHODS (1-4) Special course to train graduate teaching assistants. Var. Rpt. to a total of 4 credits. S/U. (Majors only)

CIS 6971 THESIS: MASTER'S (1-19 Var.) S/U (PR: GS, majors only)

CIS 7910 DIRECTED RESEARCH (1-19 Var.) Rpt. Requires completed contract prior to enrollment. S/U. (PR: GR. Ph.D. level, majors only)

CIS 7980 DISSERTATION: DOCTORAL (1-19 Var.) Rpt. (PR: Admission to Doctoral Candidacy)

COP 6611 OPERATING SYSTEMS (3) Operating systems functions and design, resource management, protection systems, process communication, and deadlocks. (PR: CC, majors only)

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: CI, majors only)

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: CI, majors only)

EEL 6522 INFORMATION THEORY (3) Concepts of information, information channels, channel capacity, information sources and Shannon's fundamental theorem, and error correcting codes. (PR: CI, majors only)

EEL 6706 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 CI, majors only)

EEL 6707 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, majors only)

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 CI)

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 CI)

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 CI, majors only)

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, majors only)

ELECTRICAL ENGINEERING

Chairperson: E.K. Stefanakos; *Chairperson Emeritus:* M.R. Donaldson; *Distinguished Research Professor:* V.K. Jain; *Distinguished Service Professor:* R.E. Henning; *Professors:* C.T. Chen, Y.L. Chiou, S.J. Garrett, L. Jastrzebski, M.G. Kovac, G. Lachs, J. Lagowski, D. Landis, D.L. Morel, A.D. Snider, E.K. Stefanakos, T. E. Wade; *Associate Professors:* K. Buckle, J.G. Cottle, H.A. Nienhaus, R. Sankar, P.H. Wiley; *Assistant Professors:* L.P. Dunleavy, C. Ferekides, P.G. Flikkema, W. Henley, F.D. King, K. Klontz, W. Moreno, T. Weller; *Lecturer:* H.C. Gordon, J.T. Leffew.

EEL 5250 POWER SYSTEM ANALYSIS (3) Analysis techniques for AC power systems. (Majors only)

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 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 TECHNOLOGY (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 5358 PLA PROC TECHNOLOGY (3) (Majors only)

EEL 5382 PHYSICAL BASIS OF MICROELECTRONICS (3) Quantum mechanics with emphasis on electronic properties in atoms, molecules, and crystals; quantum statistics; energy band theory; crystal structures; defect chemistry; semiconductor properties. (PR: EEL 3410)

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 5572C LOCAL AND METROPOLITAN AREA NETWORKS (3) Basics of data communication exchange of digital information over communication media; Basics of LANs/MANs and its components: media topologies, access methods, etc.; LAN/MAN architectures and protocols-IEEE 802.xLAN Standards; High speed LANs such as FDDI, IEEE 802.6 MAN, etc., Internetworking; LAN/MAN Design and selections.

EEL 5631 DIGITAL CONTROL SYSTEMS (3) Sampled data and digital control processes. (PR: EEL 4657)

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 5935, 5936, 5937 SPECIAL ELECTRICAL TOPICS I, II, III (1-3, 1-3, 1-3)

EEL 6141, 6142, NETWORK 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 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 6318 CHARACTERIZATION OF SEMICONDUCTORS (3) Electrical, optical, chemical, and physical methods used to characterize semiconductor materials and devices; includes surface and near surface spectroscopies. Available to non-majors. (PR: EEL 4351 or CI)

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 SEMICONDUCTOR DEVICE THEORY I, II (3,3) Theory of operation and application of circuits and devices. (PR: CC)

EEL 6355 COMPOUND SEMICONDUCTOR TECHNOLOGY (3) Bulk crystal and epitaxial growth technologies of III-V and II-VI compound semiconductors. The properties, characterization, and device applications of these compounds will be emphasized. (PR: EEL 4351 or Equivalent)

EEL 6387 NOISE THEORY (3) Electrical noise and signals through linear filters and electronic systems. (PR: CC,)

EEL 6391 NOISE IN ELECTRICAL DEVICES (3) Characteristics, measurements and generation mechanisms of noise sources observed in electronic materials and devices. Materials and devices to be considered include thin and thick films, superconductors, semiconductors and semiconductor devices. (PR: EEL 6387 or Equivalent)

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 OPTOELECTRONICS (3) Basic principles and operations of lasers and analyses of power output and frequency pulling in laser oscillators. (PR: EEL 3410, PHY 4604)

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 6486C, or CC)

EEL 6486 ELECTROMAGNETIC FIELD THEORY (3) Time harmonic electromagnetic fields emphasizing problems in transmission lines and electric power transmission.

EEL 6487 ADVANCED ELECTROMAGNETIC FIELD THEORY (3) Time harmonic fields emphasizing problems with exact solutions in the rectangular, cylindrical and spherical coordinate systems. Solutions by methods, Green's functions and vector methods.

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, majors only)

EEL 6506 COMMUNICATION NETWORKS (3) Objectives of networking. Circuit and packet switching. Topologies, layered architectures, protocols, and network performance. Local and wide-area network; Internet; ISDN principles. Broadband networks; SONET, SDH, ATM and B-ISDN. Applications to data/voice/video/multimedia traffic.

EEL 6509 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-access techniques. Examples including the INTELSAT series. (PR: EEL 6534 or CC)

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 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 6534 COMMUNICATION SYSTEMS I (3) Digital communication and information theory. Random processes and Markov chains. Communication channels including optical and microwave. Digital modulation and demodulation. Detection theory: matched filter, sequence detection. (PR: CC or EEL 4102)

EEL 6535 COMMUNICATIONS SYSTEMS II (3) Probability of symbol error in sequence detection. Intersymbol interference; linear and decision feedback equalizers; adaptive equalization. Spectrum control and line coding. Trellis coding. Synchronization: Phase-locked loops; Carrier recovery; Symbol timing recovery. (PR: CC or EEL 6534)

EEL 6537 APPLIED 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 6571 INTERCONNECTION NETWORKS FOR TELECOMMUNICATIONS AND MULTICOMPUTERS (3) (Advanced Graduate level) Interconnection networks and parallel machine models. Binary n-cube, mesh, PM2I, shuffle-exchange, k-ary n-cube, and other topologies. Single stage network model, partitioning. Multi-stage networks. Data-manipulator network. Blocking and non-blocking networks. Circuit and packet switching. Direct networks. Routing algorithms. Applications to telecommunications and to multi-computer systems.

EEL 6586 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, majors only)

EEL 6592 VIDEO TRANSMISSION AND HDTV (3) Principles of video transmission and television. Enhanced definition and high definition television principles, standards, and technology. Digital TV and HDTV. (PR: EEL 4512 or CC)

EEL 6593 MOBILE PERSONAL COMMUNICATION (3) Characteristics of wireless mobile channels (indoor and outdoor); multipath and shadow fading, frequency reuse; micro and pico cells; base-station and portable units. Cell coverage, blocking, and co-channel interference. TDMA, FDMA, CDMA and hybrid approaches to multiple access. Protocols, hand-over. Voice, data, and multi-media over wireless indoor channels. (PR: EEL 6534 or CI)

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 SYSTEMS (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 6707 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, CI)

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) Advanced topics in digital signal processing, e.g. (a) Adaptive arrays, beamforming, and applications to radar and sonar, (b) Mult-rate filtering, multi-resolution analysis, sub-band analysis, wavelet transforms, and applications to images and other large-scale measurements, (c) Noise cancellation, and (d) inverse problems, such as CT reconstruction. (PR: EEL 6502 or EEL 6580 or EEL 6752 or CI)

EEL 6820 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 4102 or CC)

EEL 6825 PATTERN RECOGNITION THEORY AND APPLICATIONS (3) Theory of pattern recognition. Parametric and non-parametric methods, training theorems, unsupervised learning. Biomedical, industrial, speech, image and other applications. (PR: EEL 6545 or CC)

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: ENG 5423 or CC)

EEL 6908 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. Rpt. 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)

EEL 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U

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 (1-19 Var.) S/U (PR: Admission to Candidacy)

ELR 7910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. Ph.D. level)

INDUSTRIAL AND MANAGEMENT SYSTEMS

ENGINEERING

Chairperson: P.E. Givens; *Professors:* P.E. Givens, S.K. Khator, L.A. Weaver; *Associate Professors:* A.L. Callahan, O.G. Okogbaa, W.A. Miller; *Assistant Professors:* A.L. Callahan, T.K. Das, P. McCright, M. Weng.

EIN 5245 WORK PHYSIOLOGY AND BIOMECHANICS (3) Human physiological limitations encountered in the design, analysis and evaluation of man-machine systems. (PR: CC, majors only)

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, majors only)

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. (Majors only)

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 5219 or equiv., majors only)

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. (Majors only)

EIN 5914 SPECIAL INDUSTRIAL PROJECTS I (1-3) (PR: CC, majors only)

EIN 6106 TECHNOLOGY AND LAW (3) Selected topics related to the relationships between and among technology, law and social policy, including governmental regulation, products liability, professional liability, contract negotiation and formation, and developments and trends affecting engineering professionals. (PR: CI, majors only)

EIN 6107 PROFESSIONAL BEHAVIOR AND THE ENGINEER (3) A study of professional ethics and morals as faced by technical managers in the development, production, and marketing of industrial products and services. Emphasis on case studies, class discussions, and guest lecturers regarding ethical issues in managerial decision making. (PR: CI)

EIN 6108 ENGINEERING MANAGEMENT (3) Human relations, understanding oneself, understanding other people, influencing and motivation performance, improving moral and discipline, and self appraisal and analysis for the technical manager.

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. (Majors only)

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. (Majors only)

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. (Majors only)

EIN 6218 HAZARDS CONTROL ENGINEERING (3) A study of occupational hazards and their control in the work place including regulations, organizational aspects and methodologies to control the industrial environment. (PR: CI, majors only)

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. (Majors only)

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. (Majors only)

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, majors only)

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. (Majors only)

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. (Majors only)

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. (Majors only)

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. (Majors only)

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, majors only)

EIN 6386 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. (Majors only)

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. (Majors only)

EIN 6933 ADVANCED ENGINEERING SEMINAR (1-3) (Majors only)

EIN 6934, 6935, 6936 SPECIAL INDUSTRIAL TOPICS I, II, III (1-3 Each) (PR: CC, majors only)

EIN 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (Majors only)

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 5236 RELIABILITY ENGINEERING (3) Fundamental concepts of reliability. Estimation of reliability of systems and components. Measures of availability, maintainability and reliability. (PR: ESI 5219 or equiv., majors only)

ESI 5306 OPERATIONS RESEARCH FOR ENGINEERING MANAGEMENT (3) Linear programming, non-linear programming, queuing, inventory, network analysis. Not open to students who have had ESI 4315. (ESI 5219 or equiv., majors only)

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, majors only)

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., majorso nly)

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 6225 QUALITY ASSURANCE PLANS (3) Advanced techniques in quality control systems. Includes study of articles in current journals. (PR: ESI 5219 or equiv., majors only)

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., majors only)

ESI 6291 SPECIAL TOPICS IN STATISTICS (3) Special topics in statistics related to research in engineering. (PR: CC, majors only)

ESI 6336 QUEUING THEORY (3) Introduction to queuing models. Poisson queues, non-Poisson queues, decision models, transient analysis and special queuing topics. (PR: ESI 4315, majorso nly)

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., majors only)

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., majors only)

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, majors only)

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., majors only)

ESI 6555C TOPICS IN AUTOMATION (3) Study of recent advances in automated systems, automation concepts, control methods, numerical control, adaptive control. (PR: CC, majors only)

ESI 6906 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. Rpt. S/U. (Majors only)

ESI 6911 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML, majors only)

ESI 7911 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. Ph.D. level, majors only)

ESI 7980 DISSERTATION: DOCTORAL (1-19 Var.) (PR: Admission to Candidacy)

MECHANICAL ENGINEERING

Chairperson: R.H. Howell; *Professors Emeritus:* L.A. Scott; *Professors:* R.A. Crane, R.H. Howell, S.J. Ying; *Associate Professors:* G.H. Besterfield, A. Kaw, J. Porteiro, S. Wilkinson; *Assistant Professors:* D.P. Hess, M.M. Rahman.

EGM 6653 APPLIED ELASTICITY (3) Applications of different methods, such as Fourier transforms, finite differences, complex function to solving applied engineering elasticity problems. (PR: 3500)

EGM 6656 THEORY OF ELASTICITY (3) Classical and contemporary elasticity theory with applications to engineering problems. (PR: CES 6116, majors only)

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, majors only)

EML 5245 TRIBOLOGY (3) Introduction to friction, lubrication and wear. Contact of real surfaces, mechanics of friction, surface failures, boundary lubrication fluid properties, thin film lubrication, thick film lubrication, bearing and lubricant selection. (PR: EML 4503, majors only)

EML 5325 MECHANICAL MANUFACTURING PROCESSES (3) Description of mechanical cutting, forming, and fabrication methods as used in modern industrial processes. (PR: CI, majors only)

EML 5395 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, majors only)

EML 5930, 5931 SPECIAL TOPICS III, IV (1-4 each) (PR: CC, majors only)

EML 6105 ADVANCED THERMODYNAMICS AND STATISTICAL MECHANICS (3) Topics in classical thermodynamics, some elementary subjects in statistical mechanics and some applications in combustion. (PR: ECH 3023 or EML 4106 or CI)

EML 6145 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, majos only)

EML 6154 ADVANCED CONDUCTION ANALYSIS (3) Multi-dimensional heat transfer. Emphasis on solution techniques, exact and numerical. (PR: EML 4142, EML 4041, majorsonly)

EML 6157 RADIATION (3) Review of basic principles of radiation, grey bodies and real surfaces, calculation of shape factors, absorbing gases. (PR: EML 4142, majors only)

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 4220, majors only)

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, majors only)

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 3624 or CI, majors only)

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 4220)

EML 6570 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: CI, majors only)

EML 6606 HVAC SYSTEMS DESIGN (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, majors only)

EML 6713 ADVANCED FLUID MECHANICS (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, majors only)

EML 6801 ROBOTIC SYSTEMS (3) Overview of existing industrial and specialized robot types and operation; vision systems; tactile sensors; ranging and proximity techniques; actuation/transmission methods; power sources; autonomous vehicle mobility and navigation methods; and artificial intelligence. (PR: CI, majors only)

EML 6906 DIRECTED RESEARCH (1-6 Var.) Rpt. S/U. (PR: GR., ML, majors only)

EML 6907 INDEPENDENT STUDY (1-6 Var.) Independent study in which students must have a contract with an instructor. Rpt. S/U. (PR: GR, majors only)

EML 6930 SPECIAL PROBLEMS I (1-3) (PR: CC, majors only)

EML 6931 SPECIAL PROBLEMS II (1-3) (PR: CC, majors only)

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, majors only)

EML 6971 THESIS: MASTER'S (1-6 Var.) (PR: CC, majors only)

EML 7915 DIRECTED RESEARCH (1-6 Var.) S/U. (PR: CC and GR. Ph.D. level, majors only)

EML 7980 DISSERTATION: DOCTORAL (1-12 Var.) (PR: Admission to Candidacy)

COLLEGE OF FINE ARTS

ART

Chairperson: W. Wilson *Professors:* C.J. Fager, R.W. Gelinias, J.M. Kronsoble, M.R. Larsen, C.P. Lyman, B.L. Marsh, M.A. Miller; *Associate Professors:* S.L. Davis, V. Hirt, L.S. Marcus, T.E. McLaughlin, B.J. Nickels, B.A. Shanks D.R. Wright, T.F. Wujcik; *Assistant Professors:* R. Beckman, M. Filippo, C. Gaille, H. Szepe; *Lecturers:* D.H. Elmeer; *Other Faculty:* D.L. Rosenzweig.

Admission to all 5000 level studio courses by Consent of Instructor.

ARH 5385 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 M.A. 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 6798 SEMINAR IN ART HISTORY (4) Var. Specialized topics in art history. (PR: CI)

ARH 6865 CURRENT HISTORIOGRAPHY: RENAISSANCE (4) This course explores current perspectives on problems of Renaissance historiography. (PR: ARH 5333)

ARH 6866 CURRENT HISTORIOGRAPHY: BAROQUE-ROCOCO (4) This course explores current perspectives on problems of Baroque and Rococo historiography. (PR: 5333)

ARH 6867 CURRENT HISTORIOGRAPHY: 19TH CENTURY (4) This course explores current perspectives on problems in the historiography of 19th Century Art. (PR: ARH 5451)

ARH 6868 CURRENT HISTORIOGRAPHY: 20TH CENTURY (4) Cultural and intellectual history of Modern Art. (PR: 5451)

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 5536C 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 6731C SCULPTURE (4) Rpt. (PR: CI)

ART 6907 INDEPENDENT STUDY (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U.

ART 6911 DIRECTED RESEARCH (1-19 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.

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 (1-1-9 Var.) Rpt. S/U (PR: CI)

FIL 5205C CINEMATOGRAPHY (4) (PR: CI)

FIL 6206C CINEMATOGRAPHY (4) (PR: CI)

PGY 5425C PHOTOGRAPHY (4) Advanced work in photography and related media leading to development of personal/expressive statements. Rpt. (PR: CI)

PGY 6108C PHOTOGRAPHY (4) Rpt. (PR: CI)

MUSIC

Director: J.J. Heller; *Professor Emeritus:* V.A. Bridges, V.S. Jennings; *Professors:* L.R. Cullison, C.P. Doane, J.J. Heller, R.E. Helps, H.K. Jones, J.E. Lewis, R.M. McCormick, C.R. Owen, W.D. Owen, M.N. Rearick, J.L. Smith, R.J. Summer, A.J. Watkins, A.N. Woodbury; *Associate Professors:* R.O. Froelich, A.L. Hawkins, W.P. Hayden, W.W. Jaworski, D.W. Kneeburg, A.Y. Monroe, J.L. Moore, J.B. Moorhead, J.M. Reynolds, J.W. Richmond, J.O. Robison, A.V. Summer, N.R. Warfield, W. Wiedrich; *Assistant Professors:* J.K. Khorsandian, S.N. Kluksdahl, P.H. Reller, J. Wilkins.

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 repertory. (PR: CI)

MUC 6625 SEMINAR IN JAZZ COMPOSITIONAL STYLES (2) A seminar study of the major compositional figures in jazz. Oriented toward the continuing development of students' own writing ability. MM candidates in Jazz Performance must repeat with different content. (PR: CI)

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)

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.

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 repertory 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 repertory 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 6145 WIND ENSEMBLE (1)

MUN 6215 UNIVERSITY ORCHESTRA (1)

MUN 6315 UNIVERSITY SINGERS (1)

MUN 6385 UNIVERSITY-COMMUNITY CHORUS (1)

MUN 6455, 6456 PIANO ENSEMBLE (1, 1)

MUN 6715 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 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 6446 MARIMBA ENSEMBLE (1)

MUN 6475 COLLEGIUM MUSICUM (1)

MUN 6485 CLASSICAL GUITAR ENSEMBLE (1)

MUN 6716 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 5927 ORCHESTRA WORKSHOP (1-2)

MUS 5929 STRING WORKSHOP (1-2)

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 (1-19 Var.) Independent study in which student must have a contract with an instructor. Rpt. S/U. (PR: CC)

MUS 6910 DIRECTED RESEARCH (1-19 Var.) Rpt. S/U. (PR: GR. ML, CC)

MUS 6971 THESIS: MASTER'S (1-19 Var.) Rpt. S/U (PR: CC)

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.

MUS 6995 GRADUATE RESEARCH METHODS (1-4) S/U (PR: CC)

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)

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 6665 SEMINAR JAZZ STYLES AND ANALYSIS (2) (PR: CC)

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: Cl)

APPLIED MUSIC COURSES (below) Required of all applied music majors. Private and class instruction. Required registration in major performance ensemble. (PR: Necessary competency determined by faculty jury audition.)

MVB 5251 APPLIED TRUMPET, SECONDARY (2 or 4)
MVB 5252 APPLIED FRENCH HORN, SECONDARY (2 or 4)
MVB 5253 APPLIED TROMBONE, SECONDARY (2 or 4)
MVB 5254 APPLIED EUPHONIUM, SECONDARY (2 or 4)
MVB 5255 APPLIED TUBA, SECONDARY (2 or 4)
MVB 6451 APPLIED TRUMPET (4)
MVB 6452 APPLIED FRENCH HORN (4)
MVB 6453 APPLIED TROMBONE (4)
MVB 6454 APPLIED EUPHONIUM (4)
MVB 6455 APPLIED TUBA (4)

MVK 5251 APPLIED PIANO, SECONDARY (2 or 4)
MVK 5253 APPLIED ORGAN, SECONDARY (2 or 4)
MVK 6451 APPLIED PIANO (4)
MVK 6453 APPLIED ORGAN (4)
MVP 5251 APPLIED PERCUSSION, SECONDARY (2 or 4)
MVP 6451 APPLIED PERCUSSION (4)

MVS 5251 APPLIED VIOLIN, SECONDARY (2 or 4)
MVS 5252 APPLIED VIOLA, SECONDARY (2 or 4)
MVS 5253 APPLIED CELLO, SECONDARY (2 or 4)
MVS 5254 APPLIED DOUBLE BASS, SECONDARY (2 or 4)
MVS 5255 APPLIED HARP, SECONDARY (2 or 4)
MVS 5256 APPLIED CLASSICAL GUITAR, SECONDARY (2 or 4)
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 5251 APPLIED VOICE (2 or 4)
MVV 6451 APPLIED VOICE (4)

MVW 5251 APPLIED FLUTE, SECONDARY (2 or 4)
MVW 5252 APPLIED OBOE, SECONDARY (2 or 4)
MVW 5253 APPLIED CLARINET, SECONDARY (2 or 4)
MVW 5254 APPLIED BASSOON, SECONDARY (2 or 4)
MVW 5255 APPLIED SAXOPHONE, SECONDARY (2 or 4)
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)

STUDIO TEACHING SEMINAR (below) Emphasis on techniques used in teaching the individual student in performance. (PR: GS in performance and CI)

MVK 6650 GRADUATE PIANO PEDAGOGY I
MVK 6651 GRADUATE PIANO PEDAGOGY II

MUSIC EDUCATION

Coordinator: C. Doane; *Professor Emeritus:* V.A. Bridges; *Professors:* C. Doane, J. Heller; *Associate Professors:* J.W. Richmond, J.L. Moore.

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. (PR: Acceptance in the Music Education Graduate Program or CI)

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 or 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 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 6971 THESIS: MASTERS/EDS (2-19) (In CI)

MUE 7815 FOUNDATIONS OF MUSICAL LEARNING AND TEACHING (3) A critical examination of current findings regarding the phenomena of the psychology of musical behaviors including the 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 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)

MUE 7980 DISSERTATION: DOCTORAL (2-30) (Ph.D Candidate only) (In CI)

THEATRE

Chairperson: D. Calandra; *Professors:* D. Calandra, N.B. Cole, W.A. Lorenzen, P. Massie, P.B. O'Sullivan; *Associate Professors:* J.W. Belt, P. Finelli, B.W. Lee, A.G. Lillethun, C. Steele, D.K. Williams, G.B. Stevens; *Lecturer:* M.A. Bentley.

THE 5909 DIRECTED STUDY (1-6) 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, D.R. Hilbelink, C.P. Phelps, J.A.G. Rhodin; *Associate Professors:* D.F. Cameron, J. Dwornik, K.E. Muffly, M.F. Nolan, S. Saporta, S.E. Alway; *Assistant Professor:* D.A. Hinton.

BMS 6100C GROSS ANATOMY (5-10) (PR: Anatomy Students only)

BMS 6110 MICROSCOPIC ANATOMY (5-10) (PR: Anatomy Students only)

BMS 6121 HUMAN EMBRYOLOGY (1-3) (PR: Anatomy Students only)

BMS 6150C NEUROANATOMY (5-10) (PR: Anatomy Students only)

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 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: CC)

GMS 6604 HUMAN EMBRYOLOGY (3) This course deals with the structural and functional development of the human from conception to birth. (PR: 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: 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: 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 (1-19) S/U. (PR: Gr. Ph.D. level)

GMS 7930 SELECTED TOPICS (1-3) (PR: CC)

GMS 7939 GRADUATE SEMINAR (1) (PR: CC)

GMS 7980 DISSERTATION: DOCTORAL (1-19) S/U (PR: Admission to Candidacy)

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Chairperson: L.P. Solomonson; *Professors:* W.L. Adair, M.J. Barber, J.Y. Djeu, D.C. Eichler, R. Jove, R.K. Keller, G.C. Ness, L.P. Solomonson, M.T. Williams; *Associate Professors:* G. Blanck, D.R. Cooper, G.C. Ferreira, W.R. Gower, P.J. Neame, J. Sasse; *Assistant Professors:* M.J. Androlewicz, A.C. Cannons, W.D. Cress, C.J. Kay, T. Manoz-Antonia; *Other Faculty:* K.E. Duff, R.V. Farese, J. Hardy, G.W. Litman, M. McLean, W.J. Pledger, C. Ruan, J.C.M. Tsibris, K.S. Zuckerman.

BCH 5105 BIOCHEMISTRY LABORATORY ROTATIONS (1-3) A course in which first year graduate students rotate through selected professor's laboratories to learn techniques, become familiar with ongoing research in the Department and facilitate the selection of a mentor.

BCH 6135C METHODS IN MOLECULAR BIOLOGY (4) An introduction to modern molecular biological techniques and instrumentation. Lec., Lab. (PR: BCH 6255 or CC)

BCH 6411 MOLECULAR BIOLOGY (4) 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 6506 ADVANCES IN ENZYMOLOGY (2) A discussion of the theory and mechanism of enzymological reactions with emphasis on enzymological techniques. (PR: GMS 6200C, CC)

BCH 6746 PHYSICAL BIOCHEMISTRY (2) The theory and application of modern physical biochemical techniques. (PR: GMS 6200C, 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)

BCH 6876 CURRENT TOPICS IN BIOCHEMISTRY (1) A Journal Club in which graduate students present research publications from recent literature. S/U (PR: Admission to Ph.D. Program in Medical Sciences or CC)

BMS 6200C BIOCHEMISTRY (5-10) (PR: Biochemistry Students Only)

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)

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 (1-19) S/U (PR: Admitted to Candidacy)

MEDICAL MICROBIOLOGY AND IMMUNOLOGY

Chairperson: H. Friedman; *Distinguished Research Professor:* H. Friedman, R.A. Good; *Professors:* J.Y. Djeu, D.G. Halkias, T.W. Klein, P.G. Medveczky, M. Nonoyama; S.C. Spector; *Associate Professors:* L.J. Paradise; *Assistant Professors:* B. Anderson, D.K. Blanchard, P. Geck, S.H. Pross, Y. Yamamoto.

BMS 6300C MEDICAL MICROBIOLOGY (5-10) (PR: Medical Microbiology Students only).

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 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)

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 6107 ADVANCES IN VIROLOGY (2) The course covers regulation of viral replication and the effects of virus infection on host cell function and survival. (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 6130 MOLECULAR BIOLOGY OF TUMOR VIRUSES (2-3) This course is focused on tumor viruses which are involved in the pathogenesis of cancer and utilized in gene therapy as vectors. The lectures will cover current concepts of the field, specific viral genes and gene products involved in cancer, and molecular mechanisms by which viruses transform normal cells to cancer cells. (PR: Medical Microbiology, CI)

GMS 6182 MICROBIOLOGY LABORATORY ROTATIONS (1-4) A course in which first and second year graduate students rotate through selected professor's laboratories to familiarize the student with ongoing research in the Department and facilitate the selection of a mentor. (PR: Working knowledge of Microbiology and Immunology, CI)

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 (1-19) 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 (1-19) S/U (PR: Admission to Candidacy)

PATHOLOGY AND LABORATORY MEDICINE

Interim Chairperson: J.A. Shively; *Professors:* J.U. Balis, P.J. Dawson, S.V. Nicosia; *Associate Professor:* P.R. Foulis, W.A. Janssen, L.C. Moscinski, S.A. Shelley, S.S. Tabibzadeh; *Assistant Professor:* S. Alkan, P. Baeky, K. Benson, J. Diaz, R.W. Engelman, W.A. Janssen, R. Sackstein.

BMS 6600 MEDICAL PATHOLOGY (5-10) (PR: Pathology Students Only)

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

Chairperson: L. Wecker; *Professors:* J.J. Krzanowski, Jr., J.B. Polson, L. Wecker; *Associate Professors:* R.G. Coffey, D.F. Fitzpatrick, D.G. Morgan; *Assistant Professors:* M.N. Gordon, P.E. Gottschall, K.A. Sherman.

BMS 6400C PHARMACOLOGY (5-10) (PR: Pharmacology Students Only)

GMS 6469 AUTONOMIC PHARMACOLOGY (3) 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 6500C CORE COURSE IN PHARMACOLOGY (5) A survey course designed to acquaint the student with 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 CELLULAR AND MOLECULAR PHARMACOLOGY (4) 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) Basic and clinical aspects of major pharmacologic agents with emphasis on analgesics, antibiotics, and cardiovascular drugs. (PR: GMS 6500C or CC)

GMS 6503 METHODS IN PHARMACOLOGY (2) 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 (3) A study of the physiology and pharmacology of cells of the immune system, including biochemistry of activation, immunotoxicology, and clinical applications of drugs and cytokines on immunosuppression and immunostimulation. (PR: GMS 6500C, GMS 6500 or instructor's consent, or CC)

GMS 6506 THE PHARMACOLOGY OF BIOLOGICAL MEMBRANES (3) 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 (3) 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) 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 HISTORY OF PHARMACOLOGY (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)

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 (1-19) 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 (1-19) S/U (PR: Admission to Candidacy)

PHYSIOLOGY AND BIOPHYSICS

Interim Chairperson: B.G. Lindsey; *Professors:* C.H. Baker, D.L. Davis, J.R. Dietz, H.L. Fernandez, B.G. Lindsey, D. McMillan, S.J. Nazian, J.M. Price, P. Rao, R. Shannon, D. Vesely; *Assistant Professor:* M.P. McLean, B. Sokolowski.

BMS 6500 MEDICAL PHYSIOLOGY (5-10) (PR: Physiology Students Only)

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 or CC)

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 study of lung gas exchange function and control of breathing. (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. (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 6433 MEMBRANE PHYSIOLOGY (4) Advanced readings and discussion of the molecular physiology of excitable membranes. (PR: GMS 6400C or CC)

GMS 6494 INTRODUCTION TO PHYSIOLOGICAL RESEARCH (1-19) S/U Survey of research areas and techniques currently available in the Department of Physiology and Biophysics. Laboratory. (PR: GMS 6400C or CC)

GMS 7418 DIRECTED RESEARCH (1-19) 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 (1-19) S/U (PR: Admission to Candidacy)

COLLEGE OF NURSING

NURSING

Interim Dean: P. Gorzka; *Interim Associate Dean of Graduate Studies:* L. Moody; *Professor Emeritus:* I. King, V. Ross; *Associate Professor Emeritus:* S. Boyd; *Professors:* S. McMillan, L. Moody, J. Plawecki, O. Riggan; *Associate Professors:* C. Burns, J. Gregory, C. Lengacher, C. Long, L. Lowry, B. Redding, M. Tittle, M.L. VanCott; *Assistant Professors:* J. Bezon, N. Esposito, J. Fanning, E. Francis, P. Gorzka, M. Harris, D. Heinemann, M. Kapatkin, P. Page, G. Powell-Cope, R. Sisson.

Note: Students who matriculated before Fall 1995, should consult an academic advisor so that their program plans can be accommodated.

NGR 6001 HEALTH ASSESSMENT IN ADVANCED PRACTICE (4) An advanced history and physical examination course designed to increase students competency in history taking and recording; obtaining and recording systematic integrated physical examinations. (PR: NUR 3065C or equivalent; NGR 6140, and concurrent NGR 6002)

NGR 6050 SPECIALIZED TECHNIQUES IN CHILD HEALTH ASSESSMENT (3) Designed to teach the reliable administration and interpretation of the NCAST II instruments. Skill is gained in the use of four instruments. Inter-observer reliability will be achieved through observation of parent-child interactions.

NGR 6080 FAMILY AND COMMUNITY ASSESSMENT FOR ADVANCED NURSING PRACTICE (2) Assessment of family and community groups with a focus on psychosocial, health promotion/disease prevention, and cultural dimensions. Examines health care delivery organizations as they impact health. (PR: NGR 6121 concurrent NGR 6081; CI)

NGR 6096 ONCOLOGY NURSING CONCEPTS (2) Provides advanced oncology nursing content with a focus on nursing management of physical problems resulting from cancer and its treatment. (CI)

NGR 6097 PEDIATRIC ONCOLOGY NURSING (2) Emphasizes basic concepts in the pathogenesis of pediatric oncology and hematology. Also emphasized is the role of the advanced practice nurse in relation to the epidemiology and pathophysiology of specific types of cancers.

NGR 6121 THEORETICAL BASIS OF ADVANCED PRACTICE NURSING (3) Examination of knowledge development in nursing science. Emphasis given to evaluation of utility of theories and models from nursing and related fields in explaining and guiding advanced practice. Beginning skills in concept analysis/development included.

NGR 6140 PHYSIOLOGY FOR ADVANCED PRACTICE (4) Focuses on cellular physiology and the feedback and control mechanism of bodily functions at the cellular, organ, and system level. (CI)

NGR 6142 PATHOBIOLOGY OF NEOPLASIA (2) Emphasizes basic concepts of cellular differentiation and the abnormal cytologic changes occurring in the pathogenesis of neoplasia. Also emphasized is the role of the advanced practice nurse in relation to the role of the immune system and diet in oncogenesis, and the epidemiology and pathology of specific types of cancers. (CI)

NGR 6143 PATHOPHYSIOLOGIC CONCEPTS IN CRITICAL CARE NURSING (3) This course will explore pathophysiologic mechanisms of the major body systems in critically ill patients across the lifespan. (PR: NGR 6140; NGR 6121; CI)

NGR 6155 ETHICAL, LEGAL, AND POLICY ISSUES IN ADVANCED NURSING PRACTICE (3) Primary emphases on contemporary ethical, legal, and policy issues related to advanced nursing practice and health care delivery. Issues are analyzed at the global, national, and local levels. Nursing's role in agenda setting and strategies for health care reform are presented.

NGR 6199 PHARMACOLOGY FOR ADVANCED PRACTICE (3) This course for advanced nurse clinicians is a learning experience designed to provide a current knowledge base and to promote and encourage life-long learning in pharmacology. Lectures, interactions with faculty, and examinations are utilized to stimulate and to evaluate the knowledge base of students in the discipline of pharmacology. (PR: NGR 6140)

NGR 6204 ADVANCED CLINICAL NURSING MANAGEMENT OF ADOLESCENT AND YOUNG ADULTS (2) Focuses on selected concepts, theories and research applied to the health promotion, health maintenance, prevention of illness, and the clinical management of epidemiologically significant health problems of adolescent and young adults. (PR: NGR 6140 and concurrent NGR 6205; CI)

NGR 6204L ADVANCED CLINICAL EXPERIENCES IN THE CARE OF ADOLESCENT AND YOUNG ADULTS (1) Clinical application of concepts, theories and research applied to health promotion, health maintenance, prevention of illness, and the clinical management of epidemiologically significant health problems of adolescent and young adults (1:3 ratio). (PR: NGR 6140; concurrent NGR 6204; CI)

NGR 6206 ADVANCED CLINICAL NURSING MANAGEMENT OF MIDDLE AGED AND OLDER ADULTS (2) Focuses on selected concepts, theories and research applied to the health promotion, health maintenance, prevention of illness, and the clinical management of epidemiologically significant health problems of middle aged and older adults. (PR: NGR 6140 and concurrent NGR 6207; CI)

NGR 6206L ADVANCED CLINICAL EXPERIENCES IN THE CARE OF MIDDLE AGED AND OLDER ADULTS (1) Clinical application of concepts, theories and research applied to health promotion, health maintenance, prevention of illness, and the clinical management of epidemiologically significant health problems of middle aged and older adults (1:3 ratio). (PR: NGR 6140 and concurrent NGR 6206; CI)

NGR 6212L ADVANCED PRACTICUM IN ADULT HEALTH (1-6) Var. Rpt. Clinical experiences in advanced adult health nursing practice focusing on application of theoretical and conceptual knowledge relative to adults, 13 years of age and older. Minimum 6 hours required (1:6 ratio). (PR: NGR 6204, or 6206)

NGR 6230 CLINICAL PRACTICUM I: ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING (1) Field experience in Advanced Psychiatric Mental Health Nursing that focuses on Comprehensive Psychiatric history and current functional status (1:6 ratio). (PR: NGR 6500)

NGR 6232 SELECTED CONCEPTS IN THE CRITICALLY ILL ADULT (3) This course analyzes the multiple needs of the critically ill adult. Focuses on age specific critically ill population. Examines the response to the experience of critical illness. (PR: NGR 6140)

NGR 6253 GERONTOLOGICAL NURSING PRACTICE I (3-4)

NGR 6255 ADVANCED GERONTOLOGICAL NURSING (2) Advanced course in gerontological nursing designed to help students integrate health and wellness concepts related to aging.

NGR 6255L CLINICAL EXPERIENCE IN ADVANCED GERONTOLOGICAL NURSING (1) This advanced course in gerontological nursing is designed to help students integrate health and wellness concepts related to aging (1:3 ratio).

NGR 6258 HEALTH CARE MANAGEMENT/DISEASE PREVENTION STRATEGIES FOR THE OLDER ADULT (2) this course is designed to help students integrate assessment techniques for the elderly person with acute and chronic illnesses.

NGR 6258L CLINICAL EXPERIENCE IN HEALTH CARE MANAGEMENT/DISEASE (1) This course is designed to help students integrate assessment and intervention techniques for the elderly person with acute and/or chronic illnesses (1:3 ratio).

NGR 6259 GERONTOLOGICAL NURSING PRACTICUM: CASE MANAGEMENT (3) Students will apply gerontological theories and assessment techniques in the advanced care of the elderly (1:6 ratio). (PR: NGR 6255, or NGR 6257)

NGR 6261 GERONTOLOGICAL NURSING PRACTICUM: LEADERSHIP (3) Students will develop depth and breadth in the implementation of the role of the advanced gerontological nurse (1:6 ratio). (PR: NGR 6259)

NGR 6300 ADVANCED CHILD HEALTH NURSING: NEWBORN TO PRESCHOOL (3) Focuses on the common health concerns the newborn, infant, toddler, preschooler and primary health concerns and the management of acute and chronic conditions within the age groups. (PR: NGR 6140)

NGR 6301 ADVANCED CHILD HEALTH NURSING: SCHOOLER TO ADOLESCENCE (3) Focuses on the common health concerns the school age child and adolescent and primary health concerns and the management of acute and chronic conditions within the age groups. (PR: NGR 6140)

NGR 6302L CLINICAL PRACTICUM: ADVANCED CHILD HEALTH NURSING (1-6) Focuses on development of clinical competencies necessary for advanced practice nurse to function as a child health nurse practitioner (1:6 ratio). (PR: NGR 6300 or NGR 6301)

NGR 6313 SELECTED CONCEPTS IN CRITICALLY ILL INFANT AND CHILD (3) This course analyzes multiple needs of critically ill infant and/or children and their families. Focuses on age-specific morbidity, management and responses related to critical illnesses. (PR: NGR 6140)

NGR 6500 SCIENTIFIC FOUNDATION OF ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING I (3) An examination of models and studies from psychobiological and psychodynamic perspectives that explains prevalent psychiatric phenomena such as: anxiety, mood and psychotic disorders consistent with DSM-IV classification. (PR: NGR 6121)

NGR 6501 SCIENTIFIC FOUNDATION OF ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING II (2) Further examination of models and studies from psychobiological and psychodynamic perspectives that explains prevalent psychiatric social phenomena such as: violence, substance(s) abuse, eating disorders, personality disorders, and psychological sequelae of physical illness and life transitions. (PR: NGR 6500)

NGR 6501L PRACTICUM II: ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING (2) Field experience in Advanced Psychiatric Mental Health Nursing that focuses on Comprehensive Psychiatric history and current functional status (1:6 ratio). (PR: NGR 6500)

NGR 6503L PRACTICUM III: ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING (3) Field experience in Advanced Psychiatric Mental Health Nursing that focuses on individual and group interventions with selected clients experiencing psychiatric disorders (1:6 ratio). (PR: NGR 6230)

NGR 6504 PRACTICUM III: ADVANCED PSYCHIATRIC MENTAL HEALTH NURSING (3) Field experience in a variety of community settings with culturally diverse psychiatric/mental health populations. Emphasis on implementing prevention and intervention strategies with individuals, group, families and communities (1:6 ratio). (PR: NGR 6230)

NGR 6511 GEROPSYCHIATRIC NURSING (3) Focuses on 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 6538 PSYCHOPHARMACOLOGY IN ADVANCED NURSING PRACTICE (1) Focuses on the pharmacokinetics of antianxiety, antidepressants, and antipsychotic medications. Emphasis will be placed on assessment for medication, dosage requirements, side effects monitoring medications and teaching. (PR: NGR 6140, CI)

NGR 6617 PRACTICUM IN FAMILY CENTERED NURSING (1-6) Focuses on the development of clinical competencies necessary for the advanced practice nurse of function as a family nurse practitioner (1:6 ratio).

NGR 6620 STRATEGIES FOR COMMUNITY HEALTH NURSING (3) Examines the variables that influence and guide community health nursing practice, and the application of relevant nursing concepts and theories. (PR: Concurrent NGR 6121 or CI)

NGR 6621 PRACTICUM IN COMMUNITY HEALTH NURSING (1-6) Focuses on clinical application of community health nursing concepts in selected community settings. (PR: Concurrent NGR 6121, 6620, 6738, or CI)

NGR 6633 HIV INFECTION (3) Examines theory and research based on primary and secondary prevention strategies for HIV infection with diverse populations to enhance nursing's contribution in the area. (CI)

NGR 6634 FAMILY HEALTH NURSING: PRIMARY CARE OF CHILDREN AND WOMEN (3) Focuses on health promotion, health maintenance, and the diagnosis and management of common acute and chronic problems of children and women. Emphasizes the specialized knowledge necessary to provide primary care to this population. (PR: NGR 6140)

NGR 6635 FAMILY HEALTH NURSING: PRIMARY CARE OF YOUNG AND OLDER ADULTS (3) Focuses on health promotion, health maintenance, and the diagnosis and management of common acute and chronic adult health problems. Emphasizes the specialized knowledge necessary to provide primary care to this population. (PR: NGR 6140)

NGR 6650 OCCUPATIONAL HEALTH NURSING I (2) Primary care of the worker relative to health promotion/risk reduction/acute injuries/chronic conditions, assessment of the workplace and needs of worker aggregates, and planning for health services relative to worker lifestyles and risk factors. (PR: CI)

NGR 6650L CLINICAL EXPERIENCES IN OCCUPATIONAL HEALTH NURSING I (1) Clinical experiences at selected worksites to apply content from NGR 6650 Occupational Health Nursing with an emphasis on analysis of the workplace and worker aggregates, occupational health nurse(s) roles/functions. (PR: CI)

NGR 6651 OCCUPATIONAL HEALTH NURSING II (2) Focuses on the analysis of clinical strategies (e.g. triage, biological monitoring) relevant to advanced occupational health programs, medical surveillance programs, medical surveillance programs, and worker's compensation managed care.

NGR 6651L CLINICAL EXPERIENCES IN OCCUPATIONAL HEALTH II (1) Clinical experiences relative to the application of content in NGR 6650 Occupational Health Nursing II with a focus on workplace assessment utilizing a comprehensive instrument and evaluation of worker's compensation managed care programs. (PR: CI)

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 LEARNING (2) Focuses on 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 6735 ORGAN TRANSPLANT (3)

NGR 6738 CONT PH CH NURSING (2)

NGR 6790 CONS LIAISON NURSING (3)

NGR 6800 NURSING RESEARCH (3) Research designs and methods for nursing with primary emphasis on these topics: critique of research studies, researchable problems, research designs, instruments and other data collection methods, approaches to data analyses using computer applications, and preparation of research proposals for thesis, directed research, or funded research.

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 6915 DIRECTED RESEARCH (1-3) Var. Rpt. Builds on knowledge gained in NGR 6800 and specialty concentration by participating in a research project under the direction of selected faculty. (PR: NGR 6800)

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 6944 PRACTICUM IN CRITICAL CARE NURSING (1-6) Clinical experiences in critical care settings focusing on the role of the advanced practice nurse (1:6 ratio). (PR: NGR 6143, NGR 6333 or NGR 6232)

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 6949 ONCOLOGY NURSING PRACTICUM (1-6) 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.

NGR 6971 THESIS (1-19) Var. Rpt. (PR: NGR 6800)

COLLEGE OF PUBLIC HEALTH

GENERAL PUBLIC HEALTH COURSES

HSC 4933 SPECIAL TOPICS IN PUBLIC HEALTH (1-6) Content will be governed by student demand and instructor interest. May be repeated for credit for different topics only. (PR: CI)

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.

PHC 6977 SPECIAL PROJECT: MPH (3) In-depth 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 in-depth 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 7931 ADVANCED INTERDISCIPLINARY SEMINAR IN PUBLIC HEALTH (1-3) For advanced graduate students in Public Health programs. Students, faculty and other health professionals will participate in presenting and discussing contemporary health issues and possible solutions. (PR: Advanced Standing, Ph.D. or Advanced Master's only.)

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 (1-19) Rpt. (PR: Admission to candidacy)

DEPARTMENT of COMMUNITY and FAMILY HEALTH

Chairperson: R.J. McDermott; *Professors:* T.L. Albrecht, J. Coreil, S.N. Graven, R.J. McDermott, C.S. Mahan, P.J. Marty; *Research Professors:* H.N. Jacobson, G. Lopez; *Associate Professors:* R.C. Blair, R.G. Bruce, M.L. Coulter, E. Gulitz, J.N. Henderson; *Assistant Professors:* c.A. Bryant, G. Firestone, K.D. Liller, R.J. Rummel; *Research Associate:* W.W. Westhoff; *Other Faculty:* C. Chez, E. Lucker, K. Perrin.

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.

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 PROBLEMS OF SCHOOL AGE POPULATION (3) Study of health problems and needs of school age students, including a health status screening laboratory.

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 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 6507 HEALTH EDUCATION METHODS (3) Prepares students to analyze and incorporate effective content and process in health education program delivery. Course not restricted to health education majors. (PR: PHC 6500 or CI)

PHC 6508 CASE STUDIES IN HEALTH EDUCATION (3) An assessment of selected case studies in Health Education with an emphasis on application, analysis, and evaluation of health education theory and practice to various public, private, health care, and school settings. (PR: PHC 6500, 30 hours toward MPH, or CA)

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)

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: PHC 6521, PHC 6522, or 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)

PHC 6527 CASE STUDIES IN PUBLIC HEALTH NUTRITION (3) Capstone course intended to provide a unifying opportunity to utilize concepts, principles and skills learned from other public health nutrition courses. (PR: CI)

PHC 6530 MATERNAL AND CHILD HEALTH I: ISSUES AND CONCEPTS (3) The purpose of this course is to provide for the foundation of Maternal and Child health for students who will be concentrating in this area, or as an overview for non-majors. (PR: CI)

PHC 6531 HEALTH PROGRAMS FOR CHILDREN WITH SPECIAL NEEDS (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 WOMENS' HEALTH ISSUES IN PUBLIC HEALTH (3) A public health orientation of women's health needs with their impact on society, family, and children. (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)

PHC 6536 POPULATION AND COMMUNITY HEALTH (3) Population information and applications in health programs. Topics include: population growth and decline, structure, distribution, fertility, morbidity and mortality, and migration as applied to maternal, child and community health. (PR: PHC 6410 or CI).

PHC 6537 MATERNAL AND CHILD HEALTH II: CASE STUDIES IN MCH PROGRAMS, POLICIES AND RESEARCH (3) Capstone course intended to provide unifying opportunity to utilize concepts, principles, and skills learned in other MCH and public health courses. (PR: PHC 6530, PH Core Courses, or CI)

PHC 6590 REPRODUCTIVE HEALTH TRENDS AND ISSUES (3) Provides understanding of reproductive factors in Health and Disease and its impact on community, family, and individual quality of life, and to apply current advances in FP and MCH care components and management in Public Health Programs. (PR: 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)

PHC 6931 ADVANCED SEMINAR IN SOCIAL & BEHAVIORAL SCIENCES APPLIED TO HEALTH (3) The course overviews the use of social science theory and methods in health problem analysis and program design. For students with appropriate background. (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)

DEPARTMENT of ENVIRONMENTAL and

OCCUPATIONAL HEALTH

Chairperson: S.M. Brooks; *Professors:* T. Bernard, S.M. Brooks, Y. Hammad, R. Harbison, A. Kulkarni, A. Vickery-Debaldo, J. Wolfson; *Associate Professors:* B. Kwa, I. Richards; *Assistant Professor:* P. Sherblom; *Adjunct Professor:* E. Szonntag; *Adjunct Associate Professors:* P.G. Rentos, D. Woodbridge; *Other Faculty:* W. Alberts, J. Bell, F. Dukes-Dobos, R. Fox, J. Giovinco-Barbas, A. Goldman, C. Gross, J. Hillman, D. Hogan, K. Jenkins, R. Lockey, M. Moore, L. Rinaldi, P. Roets, W. Spaul, A. Szentivanyi, T. Varney, J. Watkins.

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)

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 used in quantitative and qualitative chemical analyses for determining water quality. (PR: CHM 3610C or CI)

PHC 6306 RADIATION HEALTH PRINCIPLES (2) An analysis of the basic concepts of radiation and the protection of individuals and population groups from ionizing and non-ionizing radiation as well as establishing relationships between radiation exposure and biological damage. (PR: 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. Lecture and appropriate laboratory methods are used. (PR: CI)

PHC 6350 OCCUPATIONAL HEALTH RISK ASSESSMENT (3) A study of methods for assessing potential hazards associated with occupational health environments. Evaluation of techniques for the development of comparative rankings of problem areas. (PR: PHC 6050 or CI)

PHC 6355 OCCUPATIONAL HEALTH (3) The study of historical, epidemiologic, administrative, legal, and clinical aspects of worker's health in the workplace. (PR: CI)

PHC 6356 INDUSTRIAL HYGIENE (2) 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 (2) 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 college physics or CI)

PHC 6360 SAFETY MANAGEMENT PRINCIPLES AND PRACTICES (2) 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 INDUSTRIAL ERGONOMICS (2) 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 6362 INDUSTRIAL VENTILATION (2) Basic principles of fluid mechanics and exhaust ventilation are employed in the design and evaluation of the performance of industrial ventilation systems. (PR: PHC 6356)

PHC 6363 INDUSTRIAL NOISE AND VIBRATION (2) Review of basic physics and physiological responses associated with excessive noise and vibration and methods for their assessment and control in the work environment. (PR: CI)

PHC 6364 INDUSTRIAL HYGIENE ASPECTS OF PLANT OPERATIONS (2) Field visits to industrial plants will be conducted so as to familiarize students without prior experience to the health hazards associated with various processes and the methods of control employed to prevent excessive exposures. (PR: PHC 6356 or CI)

PHC 6365C ANALYTICAL METHODS IN INDUSTRIAL HYGIENE I (2) Analytical measuring methodologies and instruments employed in evaluating exposure to chemical agents are described and detailed. Hands-on laboratory exercises permit full familiarization in the calibration and use of these instruments. Problem solving sessions result in the development of a routine for the proper handling of laboratory data. (PR: PHC 6356 or CI)

PHC 6366C ANALYTICAL METHODS IN INDUSTRIAL HYGIENE II (2) Analytical measuring methodologies and instruments employed in evaluating exposure to physical agents are described and detailed. Hands-on laboratory exercises permit full familiarization in the calibration and use of these instruments. Problem solving sessions result in the development of a routine for the proper handling of laboratory data. (PR: PHC 6356 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 on diseases 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 on applications 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 disease. (PR: CI)

DEPARTMENT of EPIDEMIOLOGY and BIOSTATISTICS

Chairperson: P.E. Leaverton; *Professors:* C.H. Brown, P.E. Leaverton, T. Mason; *Associate Professor:* R.C. Blair; *Assistant Professors:* J. Liao, S.W. Schwartz, Y. Zhu; *Adjunct Professors:* R. W. Beck, M.J. Magenheimer; *Other Faculty:* M.I. Arrieta, M. Bayona-Celis, H. Blackburn, Jr., C. Castillo-Salgado, R.S. Hopkins, J.P. Krischer, H.W. Lee, G.H. Lyman, P.I. Moke, D. Schocken, 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 DISEASES OF MAJOR PUBLIC HEALTH IMPORTANCE (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: College Algebra or CI)

PHC 6051 BIOSTATISTICS II (3) Intermediate level statistical methods appropriate for health and epidemiologic studies. Emphasis on 2x2 tables, analysis of variance, multiple linear regression, methods of survival analysis, logistic regression, and Cox regression. (PR: PHC 6000 and PHC 6050)

PHC 6053 CATEGORICAL DATA ANALYSIS (3) Study of techniques used in analyzing data where subjects have been cross-classified by two or more categorical variables. Special emphasis given to problems frequently arising in epidemiology, public health and medicine. (PR: PHC 6051 or CI)

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 epidemiologic studies. (PR: PHC 6000, PHC 6050 and CI)

PHC 6701 COMPUTER APPLICATIONS FOR PUBLIC HEALTH RESEARCHERS (3) Course covers essential computer-based techniques for a public health researcher; data entry, editing, management, subsample selection, and data encryption for confidentiality are all covered. SAS is used extensively. Course open to all graduate students.

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

Chairperson: J. Studnicki; *Professors:* S.N. Banoob, T.N. Chirikos, P.J. Levin, J. Studnicki; *Associate Professor:* A.M. Sear; *Assistant Professors:* W.W. Reid, K. Siddharthan, J. Steinberg; *Other Faculty:* J.J. dallman, R.P. Kaufman, S. Luther, J.V. Straumfjord, D. Zabel.

PHC 6196 INFORMATION SYSTEMS IN HEALTH CARE MANAGEMENT (3) The course is designed to prepare students to analyze and design information systems in health services organizations. (PR: PHC 6050 or CI)

HSA 6197 DESIGN OF COMPLEX 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 6102 PRINCIPLES OF HEALTH POLICY AND MANAGEMENT (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; socio-economic 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: At least 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, provision, and consumption 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 service organization. A seminar format is used for an in-depth examination of human factors/human relations issues in health service 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 I (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 6433 HEALTH ECONOMICS II (3) Second of a two part sequence surveying various applications of economic principles and methods to current issues in public health. Emphasis on efficiency goals of health care policy and the use of economic analysis in the design of such policy. (PR: PHC 6430)

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 organization 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)

FLORIDA PUBLIC HEALTH INFORMATION CENTER

Director: J. Wolfson; *Research Associate:* B. Clark

INDEX

- Academic Dishonesty 36
 Accountancy 91-94
 Accreditation, USF 7
 Admission Requirements 9-11
 Admission to Candidacy
 Adult Education 107, 109
 African Art Program 154
 Aging Studies, Ph.D. in 63
 American Studies 46, 65
 Anatomy 156
 Anthropology 46
 Application for degree 18
 Architecture 43
 Art 149
 Art History 150
 Assistantships or Associateships 27
 Athletics 35
 Attendance Policy 15
 Audit courses 16
- Biochemistry and Molecular Biology 156
 Biology 48
 Biomedical Engineering 139
 Biostatistics 168
 Bookstores 32
 Botany 48
 Business Administration 88
 Business and Office Education 108
- Cancellation of classes 16
 Catalog 14
 Ctr for Urban Transportation Research 154
 Change of degree program 18
 Cheating 68
 Chemical Engineering 139
 Chemistry 50
 Civil Engineering 140
 Classics 53
 Communication 53
 Communication Sciences and Disorders 54
 Comprehensive Examinations 20, 22
 Computer Science 142
 Computing 40
 Conduct, student 35
 Continuous Enrollment 14
 Counseling Center 29
 Counselor Education 29
 Course Attendance at First Class Meeting 15
 Criminology 63
- Disability, students with 10, 30
 Discipline, student 35
 Dissertation 22, 23
 Dissertation Defense 22
 Distributive Education 108
 Division of Learning Technologies 40
 Division of Sponsored Research 39
 Doctoral Degree, general 21-23
 Drop/Add 15
 Dual Master's Degree 20
- Early Childhood Education 112-114
 Economics 97
 Ed. D. Degree 105
 Ed.S. Degree 105
 Educational Leadership 115
 Electrical Engineering 142
 Elementary Education 112-114
 Engineering Biotechnology 139
 Engineering Science 139
 English 58
 English Education 126
 Enrollment Requirements 14, 17, 22
 Environmental Engineering 140
 Environmental Health 171, 174
 Epidemiology 168-171
 Equal Opportunity 38
 Executive M.B.A. 95
- Fees 25
 Fellowships 27
 Financial Aid 28
 Five-Year Program 136
 Florida Mental Health Institute 40
 Foreign Language Education 127
 Full-time Status 17
- Geography 60
 Geology 60
 Gerontology 62
 Gifted Education 132
 GMAT 9, 10, 11
 Grading 16
 Graduate Catalog 14
 Graduate Certificate in Public Mgt. 82
 Graduate Faculty 7
 Graduate School 7
 GRE 9, 10, 11
- Health Care Organizations and Mgt. 174
 Health Policies and Programs 175
 Health Service, student 29
 Higher Education 116
 History 64
 Humanities 65

- Industrial and Mgt. Systems Engineering 143
- Industrial Hygiene and Safety Mgt. 172
- Institute on Aging 41
- Institute on Black Life 41
- Instructional Technology 109, 127
- International Health Management 175
- International students 10, 11, 30, 34

- Journalism Studies 71
- Junior College Teaching 117

- Languages 67
- Libraries 39
- Library and Information Science 68
- Linguistics 67

- "M" Grade 17
- M.B.A. Program for Physicians 96
- Management 98
- Marine Science 69
- Mass Communications 71
- Master of Business Administration (M.B.A.) 92
- Master of Liberal Arts 65
- Master's Degree, general 119-120
- Maternal and Child Health 165
- Mathematics 72
- Measurement/Evaluation 118
- Mechanical Engineering 144
- Medical Sciences 155
- Medical Microbiology and Immunology 156
- Middle School Education 129
- Music 151
- Music Education 159

- Non-degree Seeking Student Status 11
- Nursing 158

- Occupational Health Nursing 160, 173
- Occupation Health Residency 173
- Oral Exams, Doctoral 22

- Pathology and Laboratory Medicine 157
- Pharmacology 157
- Philosophy 74
- Physical Education 119
- Physics 76
- Physiology and Biophysics 159
- Plagiarism 36
- Political Science 79
- Program and Course Requirements 19
- Psychology 79
- Public Administration 80
- Public Health 161
- Public Health Education 166
- Public Health Nutrition 167

- Reading /Language Arts 111, 113, 114
- Records, student 13, 15
- Registration 12
- Rehabilitation Counseling 83
- Religious Organizations 34
- Religious Studies 84
- Research, Office of 39
- Residency Requirements 21, 24

- Scholarships 27-28
- School Psychology 120
- Small Business Development Center 99
- Social Work 85
- Sociology 86
- Solid and Hazardous Waste Mgt. 61, 141, 171
- Special Education 136

- Tax Liability 28
- Thesis, Masters 19, 20
- Time Limits for degree 20, 21
- Tools of Research 21
- Toxicology 171
- Traineeships, Public Health 164
- Traveling Scholars Program 13
- Tropical Disease 172
- Tuition Waivers 28

- University Police 38
- University Regulations 17

- Vehicle Regulations and Fees 26
- Veterans Administration Benefits 31
- Victim's Advocacy Program 38
- Visiting Artists and Artist-in-Residence 148
- Vocational Education 109

- Withdraw 15
- Women's Studies 87

