<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE TITLE</th>
<th>PREREQUISITES</th>
<th>CR</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>COP 5001</td>
<td>TOPICS IN COMPUTERS AND PROGRAMMING</td>
<td>CC</td>
<td>(4)</td>
<td>Machine organization, assembly and machine language, data structures, systems programming, operating systems.</td>
</tr>
<tr>
<td>COP 6530</td>
<td>DATA STRUCTURES</td>
<td>CC</td>
<td>(3)</td>
<td>Representation of information and information structures in a computer system, linear linked lists, multilinked lists, algorithms for list manipulation, stack, dequeues and queues, trees and binary trees, tree traversing algorithms.</td>
</tr>
<tr>
<td>COP 6613</td>
<td>OPERATING SYSTEMS</td>
<td>CC</td>
<td>(3)</td>
<td>Operating systems functions and design, resource management, protection systems, process communication and deadlocks.</td>
</tr>
<tr>
<td>COP 6640</td>
<td>PROGRAMMING LANGUAGES AND TRANSLATION</td>
<td>CC</td>
<td>(3)</td>
<td>Grammars and languages, symbols, strings, syntax, parsing, the design of a compiler, storage organization and symbol tables, translator writing systems.</td>
</tr>
<tr>
<td>EEL 5167</td>
<td>COMPUTER AIDED DESIGN &amp; ANALYSIS</td>
<td>EEL 4301</td>
<td>(3)</td>
<td>The emphasis is upon applications and how to use the major CAD programs as effective tools to solve a wide variety of engineering problems. The coverage includes solid state design, systems analysis, digital logic, transfer function solutions and concludes with a brief look at thermal and mechanical systems analysis. The programs used include SUPER*SCEPTRE, SPICE 2, NASAP and others.</td>
</tr>
<tr>
<td>EEL 5250</td>
<td>POWER SYSTEMS ANALYSIS</td>
<td>CC</td>
<td>(3)</td>
<td>Analysis techniques for AC power systems.</td>
</tr>
<tr>
<td>EEL 5253</td>
<td>COMPUTER ANALYSIS OF POWER SYSTEMS</td>
<td>CC</td>
<td>(3)</td>
<td>Review of Fortran programming, matrix algebra, network formulation, short circuit studies, simulation of algebraic equations, load flow studies, numerical solution of differential equations, transient stability studies. Strong emphasis on techniques adaptable to digital computer studies, programs will be written and run on the IBM 360/65.</td>
</tr>
<tr>
<td>EEL 5367</td>
<td>PULSE CIRCUIT PRINCIPLES</td>
<td>EEL 4102, EEL 4300</td>
<td>(3)</td>
<td>An introduction to the analysis and design of pulse and timing circuits with applications.</td>
</tr>
<tr>
<td>EEL 5435</td>
<td>UHF PRINCIPLES</td>
<td>EEL 4102, EEL 4300, EEL 4411</td>
<td>(3)</td>
<td>A study of tubes, devices, and circuits peculiar to systems which operate at ultra high and super high frequencies.</td>
</tr>
<tr>
<td>EEL 5435L</td>
<td>UHF LABORATORY</td>
<td>EEL 4355</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>EEL 5620</td>
<td>NONLINEAR CONTROL SYSTEMS</td>
<td>EEL 4656</td>
<td>(3)</td>
<td>Principles of state-variables, phase-plane and describing functions.</td>
</tr>
<tr>
<td>EEL 5620L</td>
<td>CONTROL LABORATORY</td>
<td>EEL 5620</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>EEL 5711</td>
<td>DIGITAL COMPUTERS</td>
<td>EEL 4705</td>
<td>(3)</td>
<td>Digital arithmetic; computer subsystems, arithmetic units; control units; memory units; general purpose computers.</td>
</tr>
<tr>
<td>EEL 5711L</td>
<td>DIGITAL LABORATORY</td>
<td>EEL 5711</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>EEL 5730</td>
<td>SEQUENTIAL CIRCUITS</td>
<td>EEL 4705</td>
<td>(3)</td>
<td>The design of switching circuits with inputs that are functions of time is carried from a word description through a minimum state realization using flip-flops, logic gates and delay elements.</td>
</tr>
<tr>
<td>EEL 5755</td>
<td>DIGITAL SIGNAL PROCESSING TECHNIQUES</td>
<td>EEL 4102 or CC</td>
<td>(3)</td>
<td>Techniques of real time statistical analysis of signals, signal conditioning and enhancement. Design of digital networks.</td>
</tr>
</tbody>
</table>

**EEL 5760 DISCRETE STRUCTURES FOR DIGITAL SYSTEMS**


**EEL 5810 IMAGE PROCESSING BY COMPUTERS**

PR: EEL 4102 or CC. Two dimensional convolution and system functions. Fourier transform in two dimensions. Digitization of two dimensional signals, sampling theorems, band-limited signals. Image processing by computers. Applications of image processing.

**EEL 5851C FILE AND DATA ACCESS SYSTEMS**

PR: COP 4400. Introduction to data organization and file structure principles of mass storage devices. Sequential, consecutive, direct-access, indexed, and virtual file access methods are addressed.

**EEL 5852C DATA BASE SYSTEMS**

PR: EEL 5851C. Fundamentals of data base management systems. CODASYL, network, hierarchical, and relational data base systems are analyzed, and typical applications are presented.

**EEL 5853C TELEPROCESSING AND TELECOMMUNICATIONS**

PR: Systems Analysis and Design. Fundamentals of teleprocessing and telecommunications from a software perspective. Multi-access remote communications structures and requirements, message queuing, teleprocessing monitors and software systems are addressed.

**EEL 5931 ENGINEERING SEMINAR**

PR: CC.

**EEL 5935, 5936, 5937 SPECIAL ELECTRICAL TOPICS I, II, III**

PR: CC.

**EEL 6141, 6142, 6143 NETWORKS SYNTHESIS I, II, III**

PR: CC. Network functions; physical realizability; two terminal network synthesis methods; frequency transformation; potential analogy; approximation problems; insertion-loss and transfer function synthesis.

**EEL 6150, 6151 ADVANCED CIRCUIT THEORY I, II**

PR: CC. Network fundamentals; network characterization; frequency analysis; superposition integrals; signal-flow techniques; stability problems; real-and-imaginary relations.

**EEL 6152 NONLINEAR CIRCUITS**

PR: CC. Analytical and topological approaches to nonlinear circuits, nonlinear resonance; relaxation oscillations.

**EEL 6168 CADA: MODELING & SOFTWARE**

PR: EEL 5167. Coverage includes all facets of solid-state modeling pertaining to CADA applications. Discrete and macro modeling techniques are explored for a wide range of devices. Software methods for CADA applications are discussed from several vantage points. Methodology and treatment required for the large scale, general purpose programs are explored. The mathematical techniques used for the modern integration routines are examined, with trade-offs discussed.

**EEL 6174 OPTIMUM FILTERING AND IDENTIFICATION**

PR: CC or EEL 6631. Estimation theory and development of the Kalman-Wiener filters for continuous and discrete-time systems. System identification through deterministic and stochastic approaches. Application to control and communication systems.

**EEL 6261, 6262, 6263 ELECTRIC POWER SYSTEMS I, II, III**

PR: CC. Steady-state and transient analysis of interconnected power systems; power circuit protection; transient characteristic of apparatus.

**EEL 6270 LIGHTNING AND SURGE PROTECTION**

PR: CC. Methods of protection against overvoltage due to lightning. Ground wire shielding, systems and tower grounding.
lightning arresters. Dynamic overvoltage, switching phenomena and system recovery voltages.

**EEL 6271 PROTECTIVE RELAYING OF POWER SYSTEMS**

PR: EEL 5250, EEL 6261 or CC. Fundamentals of instrumentation. Design and operation of protective schemes for equipment in generation, transmission, and distribution circuits. Analysis of abnormal system conditions requiring relay operation.

**EEL 6332 ELECTRICAL PROPERTIES OF THIN FILMS**

PR: EEL 4330 or equivalent and EEL 4411 or CC. Electrical properties of thin films as derived from Boltzmann's transport equation. The growth of thin films. The fabrication of electrical circuits with thin films. Lecture supplemented by laboratory experiments and demonstrations.

**EEL 6351, 6352, 6353 SOLID STATE ELECTRONICS I, II, III**

PR: CC. Theory of operation and application of circuits and devices.

**EEL 6386, 6389 PRINCIPLES OF SEMICONDUCTOR DEVICE MODELING I, II**

PR: EEL 4102, EEL 4411. A course sequence which emphasizes systematic methods for obtaining models which relate device physics to terminal behavior and which provide appropriate compromises between accuracy and simplicity.

**EEL 6387 NOISE THEORY**

PR: CC. Electrical noise and signals through linear filters and electronic systems.

**EEL 6432 MICROWAVE COMPONENTS**

PR: CC. A study of directional couplers, junctions, cavities and other passive microwave components including microwave integrated circuits.

**EEL 6433 MICROWAVE NETWORKS**

PR: CC. Scattering and transfer representation of n-ports. Odd and even mode theory. Wave filters.

**EEL 6434 MICROWAVE GENERATION AND AMPLIFICATION**


**EEL 6482, 6483, 6484 ELECTROMAGNETIC FIELDS AND WAVES I, II, III**

PR: CC. Electromagnetic theory from the engineering point of view, propagation and reflection of waves, guided waves, resonant cavities, antennas and radiation.

**EEL 6506 DATA TRANSMISSION**

PR: EEL 6508. Quantization theory, binary coding systems, ideal binary transmission, on-off keying, FSK, PSK, PCM applications.

**EEL 6507 DATA TRANSMISSION II**

PR: EEL 6506. M-ary systems-MASK, MFSK, MPSK, orthogonal systems, multilevel and multistate coding, simplex codes, orthogonal and biothogonal codes, polycyclic systems, synchronization methods.

**EEL 6508 PULSE COMMUNICATIONS SYSTEMS**

PR: CC. Sampling theory, pulse waveform generation and modulation, PAM, PWM, PPM, related multiplex systems, telemetry applications.

**EEL 6522 INFORMATION THEORY**

PR: CC. Concepts of information, information channels, channel capacity, information sources and Shannon's fundamental theorem.

**EEL 6531, 6532, 6533 THEORY OF COMMUNICATION I, II, III**

PR: CC. Physical basis and statistical representation of electrical noise; filtering, modulation, and de-modulation of signals corrupted by noise; correlation techniques and linear prediction; statistical estimation of signal parameter; optimum filters and receivers; ambiguity functions and inverse probability. Quantitative measure of information sources, noise channels and channel capacity; an introduction to error-correcting codes.

**EEL 6613 MODERN CONTROL THEORY**

PR: EEL 4656, EEL 5620, EEL 6631, EEL 6640 or CC. A study of modern control techniques including optimum and adaptive control.

**EEL 6631 DIGITAL CONTROL SYSTEMS**

PR: EEL 4656. Sample-data and digital control processes.

**EEL 6640 RANDOM PROCESSES IN CONTROL SYSTEMS**

PR: EEL 4656. Analysis and design of control systems subject to random inputs and disturbances.

**EEL 6756 SPECTRAL ANALYSIS BY COMPUTERS**

PR: CC. Introduction to time series analysis by computers. Discrete Fourier methods applied to time series, sample spectrum, cross spectrum, smoothing of spectral estimators, distribution properties. Application to physical, biological and environmental problems.

**EEL 6764 DIGITAL ARITHMETIC METHODS**

PR: CC or EEL 5711. Study of the number systems and the algorithms used for digital arithmetic computation with emphasis in their implementation, speed and reliability considerations.

**EEL 6765 COMPUTER DESIGN LANGUAGES**

PR: CC or EEL 5711. Simulation languages for digital computer systems; APL, CDL and others. Simulation of elements, operations, sequences and a complete digital computer.

**EEL 6822 PATTERN RECOGNITION THEORY**


**EEL 6823 COMPUTER APPROACHES TO PATTERN RECOGNITION**


**EEL 6830 CODING THEORY I**

PR: CC. Error-correcting codes, algebraic block codes, linear codes and feedback shift registers. BCH codes and decoding methods.

**EEL 6831 CODING THEORY II**


**EEL 6840 AUTOMATA THEORY I**


**EEL 6841 AUTOMATA THEORY II**


**EEL 6842 AUTOMATA THEORY III**

PR: EEL 6841. Artificial languages, phase-structure grammars, operations on languages, decision problems, discrete value random processes, Markov processes, probabilistic sequential machines, non-deterministic sequential machines.

**EEL 6908 INDEPENDENT STUDY**

(var.) Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

**EEL 6932 ADVANCED ENGINEERING SEMINAR**

PR: CC.

**EEL 6935 SELECTED ELECTRICAL TOPICS**

PR: CC.
### Energy Conversion and Mechanical Design

#### UNDERGRADUATE COURSES

**ECH 4131 REACTING SYSTEMS I**  
PR: EMC 4104. Design and control of homogeneous chemical reactors, effect of mixing, temperature and flow characteristics. Laboratory (3 contact hours). The student in this laboratory will be responsible for the safe and efficient manufacture of a "chemical" on pilot plant equipment. Lec.-lab.

**ECH 4215 TRANSPORT PHENOMENA**  
PR: ECH 4234, EGN 3354C, or EMC 3103. A comparative study of transport phenomena with emphasis on the macroscopic applications of the balance and flux equations of momentum, energy, and mass.

**ECH 4234 MASS TRANSFER**  
PR: EMC 3121. Study of molecular and turbulent diffusion in fluids, diffusion in solids, mass transfer coefficients and interphase mass transfer. Qtr. II, III.

**ECH 4413 SEPARATION PROCESSES I**  
PR: MAC 3412, CR: EGN 3343. Introduction to the use of mass and energy balances and to chemical engineering thermodynamics through the description and analysis of separation processes (e.g., crystallization, distillation, osmosis, etc.) Qtr. I, II.

**ECH 4414 SEPARATION PROCESSES II**  
PR: ECH 4413 or CI. Emphasis on selection and design of separation processes. Familiarization with graphical techniques, group methods and other computational approaches used in design. Use of empirical correlations for size of equipment, efficiency of the process and quality of the separation. Qtr. III, IV.

**ECH 4615 DESIGN AND CASE PROBLEMS**  
PR: EGN 3613, ECH 4414. This part of the course exposes the chemical engineering student to the design of a chemical plant or a major part of a process. The annual A.I.Ch.E. student contest design problems and typical design problems supplied by local industries will be used. CASE PROBLEMS: This part of the course stresses engineering "art." The word "case" connotes a specific engineering problem situation actually experienced by someone in the past or present. The student must generate his own individual approach to problem solving, benefiting from those of others in the class.

**ECH 4714 INDUSTRIAL CHEMISTRY**  
PR: CHM 3210 ECH 4414. A critical study of selected chemical process industries in order to give the student a better understanding of the direct application of basic chemical process principles.

**EMC 3301 PHYSICAL MEASUREMENTS I**  

**EMC 3303L ENERGY CONVERSION LABORATORY I**  
CR: EGN 3343. Introduction to engineering laboratory measurement with emphasis on the use of the library and the writing of technical reports. Experiments in the measurement of temperature, pressure, fluid flow, psychrometric properties of air, concentration, viscosity. Determination of mass-energy balances of simple systems. Preparation of formal engineering reports covering laboratory work.

**EMC 4104 THERMODYNAMICS IV**  
PR: EGN 3343 or CI. Introduction to Chemical Engineering Thermodynamics; Maxwell relations, properties of real substances and solutions, description of multicomponent systems in equilibrium. Qtr. III, IV.

**EMC 4112 ELECTRONIC EQUIPMENT COOLING**  

**EMC 4131 FUELS AND COMBUSTION**  
PR: EMC 3103 or EMC 4104. A study of chemical reactions as sources of energy. Emphasis on the combustion characteristics of gaseous, solid, and liquid fuels, and equipment needs to safely and economically control combustion processes. Lec.-lab.

**EMC 4311L CONTROLS LABORATORY**  

**EMC 4312 MECHANICAL CONTROL**  
PR: EGN 3373, EGN 3433L, and EMC 4411. Analysis of devices for measurement and control. Transmitters, error detectors, controllers, and final control elements. Block diagram representation.

**EMC 4314 PROCESS CONTROL SYSTEMS I**  
PR: EMC 4312 or CI. Analysis and design of process control systems. Consideration of typical control sensors and controllers as well as advanced process control techniques such as feedforward and ratio control.
EMC 4402 DYNAMIC RESPONSE OF
ENGINEERING SYSTEMS II
PR: EGN 3433L. Analysis of response of dynamic systems with emphasis on the inter-disciplinary nature of such response. A continuation of Dynamic Response I, EGN 3433L.

EMC 4411 ANALOG AND DIGITAL SIMULATION I
PR: EGN 3433L or CI. The use of analog and digital computers as tools for the solution of engineering problems by means of simulation. Lec.-lab.

EMC 4501 FLUID MACHINERY I
PR: EGN 3354C and EMC 3121 or CI. Performance characteristics of pumps and fans; energy conversion in fluid machines; design of piping and duct systems; proper selection of pumps and fans for given fluid systems; analysis of system efficiency parameters; correlation of design predictions with experimental data.

EMC 4522L ENERGY CONVERSION LABORATORY II
PR: EMC 3303L. Continuation of EMC 3303L with emphasis on material and energy balances of mechanical and chemical systems and processes. Lec.-lab.

EMC 4523 ENERGY CONVERSION LABORATORY III
PR: EMC 4522L or CI. Continuation of EMC 4522L. Emphasis on experiments involving momentum transfer of non-Newtonian fluids, heat conduction, and mass diffusion.

EMC 4905 INDEPENDENT STUDY
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

EMC 4930 SPECIAL TOPICS ENERGY CONVERSION I
PR: CC.

EMC 4931 SPECIAL TOPICS ENERGY CONVERSION II
PR: CC.

EML 3264 DYNAMICS OF MECHANICAL SYSTEMS
PR: MAC 3282, PHY 3040. Plane and angular motion; velocity and acceleration curves, velocities and accelerations in mechanisms, static and dynamic force analysis. Rolling and sliding contact pairs, cams, gear tooth action. Lec.-lab.

EML 4500 MACHINE ANALYSIS AND DESIGN
PR: EGN 3313. Stress analysis, stress strain relations, deflection analysis, shock and impact, selection of materials, principles of design. Lec.-lab.

EML 4503 MECHANICAL DESIGN I
PR: EML 3264, EML 4500. Application of the principles of engineering mechanics, materials and manufacturing to the analysis and design of mechanical elements. Lec.-lab.

EML 4513 POWER PLANT ANALYSIS AND DESIGN
CR: EMC 3103, EMC 3117. Parameters affecting utility power production; daily load curves; estimation of future loads; economics of power generations; system efficiency as affected by the thermodynamic cycle, multunit scheduling, and load variation; heat transfer regions in the steam generator; water treatment methods.

EML 4601 REFRIGERATION AND AIR CONDITIONING
CR: EMC 3103, EMC 3117. Application of thermodynamics, heat transfer and fluid flow to the design of systems for controlling our environment; heating and cooling load calculations; psychrometrics of air conditioning processes.

ENU 4142 INTRODUCTION TO NUCLEAR ENGINEERING I
Neutron density and thermalization parameters; criticality calculations; transient flux parameters; reactor operation; control instrumentation.

GRADUATE COURSES
ECH 6217 ADVANCED TRANSPORT PHENOMENA
PR: ECH 4215 or CI. Transport processes (mass, momentum and energy) are the underlying phenomena in energy conversion systems. This course expands and unifies the fundamental concepts introduced in undergraduate fluids and heat and mass transfer courses.

ECH 6515 REACTING SYSTEMS II
PR: ECH 4131 or CI. Dynamics of heterogenous reaction. Economic factors in the design of chemical reactors. Simulation of complex reacting systems.

ECH 6616 DESIGN AND CASE STUDIES
PR: ECH 4615. Plant and Process Design with emphasis on computer aided design.

EMC 5107 INDUSTRIAL CHEMICAL ENGINEERING THERMODYNAMICS
PR: CI. Classical thermodynamics applied to complex power cycles and reacting systems of industrial importance. Review of Maxwell relations, equations of state of real substances, and Gibbs Free Energy and Equilibria.

EMC 5305 INSTRUMENTAL ANALYSIS
PR: CHM 2047, PHY 3042. This course deals with the engineering bases of a variety of sophisticated instrumental techniques for chemical analysis. Emphasis is placed on the physical basis of the instrument and its design rather than on the interpretation of the analysis. Systems to be examined include light and r.f. spectroscopy, mass spectrometry and methods which depend on various transport properties.

EMC 5315 HYDRAULIC CONTROL
PR: EMC 4312 or CI. Hydraulic control system components and their effects on closed loop system performance. Lec.-lab.

EMC 5502 FLUID MACHINERY II
PR: EMC 4501. Performance characteristics of compressors and exhausters, vacuum pumps, and gas turbines; internal energy exchange and fluid flow paths; piping and ducting considerations; economic selection of proper equipment to match fluid and power system requirements; evaluation of off-design conditions.

EMC 5510 POWER UTILIZATION SYSTEMS

EMC 5651 INDUSTRIAL AIR POLLUTION CONTROL
PR: EGN 3343. A basic course in the elements of large source air pollution and control as presented from the engineering viewpoint. Major units to be studied: Sources, Atmospheric Meteorology, Diffusion, Local Influences. Control Measures, Emergencies, Protection. Lec.-lab.

EMC 5930 SPECIAL TOPICS ENERGY CONVERSION III
PR: CC.

EMC 5931 SPECIAL TOPICS ENERGY CONVERSION IV
PR: CC.

EMC 6105 ADVANCED THERMODYNAMICS
PR: CC. Advanced treatment of the general equations of thermodynamics, principal equations of chemical reaction; the chemical potential and equilibrium; analysis of metastable states. Irreversibility and steady flow.

EMC 6106 THERMODYNAMICS OF FLUID FLOW
PR: CC. Interrelationship of the equations of fluid motion and of thermodynamics for ideal gases; subsonic and supersonic gas flows, flows with friction and with heat transfer; super-sonic nozzle design; parameters of fluid thrust.

EMC 6115 PROCESS HEAT TRANSFER I
PR: EMC 3117. Review of conduction and convection heat transfer, counterflow, 1-2 parallel-counterflow flow arrange-
ments for increased heat recovery; calculations for process con-
ditions, condensation and evaporation.

EMC 6116 PROCESS HEAT TRANSFER II (3)
PR: EMC 3117, EMC 6115. Extended surface, longitudinal and
radial fins, crossflow, finned passages, longitudinal high fin ex-
changers, radial flow fin exchangers, transverse high fin ex-
changers and compact heat exchangers.

EMC 6118 HEAT TRANSFER III (3)
PR: EGN 4421, EMC 3117. Steady and unsteady heat transfer
by conduction; one, two, and three dimensional systems, numerical,
graphical, and analog methods, finite difference methods,
and periodic conduction heat flow.

EMC 6119 HEAT TRANSFER IV (3)
PR: EGN 4421, EMC 3117, or CC. Radiative heat transfer. Ra-
diation from black and "grey" bodies. Pure radiative heat
transfer and in the presence of other modes of energy transfer.

EMC 6302 PHYSICAL MEASUREMENTS II (3)
PR: EMC 3301, EMC 4411, EMC 4522L or CI. The techniques
and theory for measuring temperature, pressure, displacement,
speed, acceleration, force, power, and psychrometric properties
with particular attention to dynamic measurement. Lec.-lab.

EMC 6316 NUMERICAL MEASUREMENT AND
CONTROL (3)
PR: CC. Incremental and absolute control systems. Number sys-
tems used in numerical control. Digital to analog and analog to
digital conversion. Applications.

EMC 6317 DIRECT DIGITAL CONTROL (3)
PR: EMC 4314 or CI. Application of digital computer to control
of engineering processes. Includes study of digital filtering. Z-
transforms, supervisory control. A/D and D/A conversion.

EMC 6318 ADVANCED MECHANICAL CONTROL (3)
PR: EMC 4402 or CI. Applications of state space techniques to
analysis and design of energy transfer control systems. Includes
study of optimal control and adaptive control.

EMC 6319 FLUID AMPLIFIERS AND CIRCUITS (3)
PR: CC. Analysis and design of fluid devices for use as amplifiers,
logic devices and memory elements in instrumentation
and control systems.

EMC 6412 ANALOG AND DIGITAL SIMULATION II (3)
PR: EMC 4411 or CI. Introduction to mathematical modeling
techniques applied to Mechanical and Chemical Engineering
systems. The use of analog and digital computers in the solution
of these models. Lec.-lab.

EMC 6415 DIGITAL TECHNIQUES IN ENERGY
TRANSFER SYSTEMS (3)
PR: EMC 4411 or CI. Application of both general purpose and
specialized programs to the solution of problems in the design
of control systems, kinematic mechanisms and energy transfer
systems. Some languages and programs to be used are FORTRAN,
the Continuous System Modeling Program and the Mechanism
Design Program.

EMC 6455 DIMENSIONAL ANALYSIS AND
MODEL THEORY I (3)
PR: CC. Theory of dimensional analysis, similitude, and design
of models.

EMC 6520 ENERGY TRANSFORMATION AND
STORAGE (3)
PR: CC. Analysis of direct energy conversion systems,
photoelectric cells, thermocouples, fuel cells, thermionic con-
verters, magnetohydrodynamic devices, solar energy cells, rect-
tifiers, inverter, energy storage devices.

EMC 6650 PROCESS DESIGN FOR
ENVIRONMENTAL PROTECTION I (4)
PR: ECH 4615 or CI. Equipment and Process Design with em-
phasis on discharge control and environmental protection. Eco-
nomic and ecological constraints on optimum design.

EMC 6906 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

EMC 6907 INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with
an instructor. Repeatable. (S/U only.)

EMC 6930 SPECIAL PROBLEMS I (1-4)
PR: CC.

EMC 6931 SPECIAL PROBLEMS II (1-4)
PR: CC.

EMC 6934 ADVANCED SEMINAR (1-3)
PR: CC.

EMC 6938 GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate
instructor teaching assistants. Variable credit, repeatable. Limited to
a cumulative total of 5 credits per student. (S/U only.)

EMC 6939 GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate
research assistants. Variable credit, repeatable. Limited to a
 cumulative total of 5 credits per student. (S/U only.)

EMC 6971 THESIS: MASTERS (var.)
Repeatable. (S/U only.)

EMC 7915 DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

EMC 7980 DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U
only.)

EML 5221 MECHANICAL VIBRATION AND
BALANCING (3)
PR: EGN 3321, EGN 4421. Transient and steady state vibration
analysis of mechanical systems with lumped parameters. Dy-
namic balancing, vibration isolation and simulation of systems.

EML 5224 ACOUSTICS AND NOISE CONTROL (3)
PR: CC. Fundamentals of sound propagation; sound power and
intensity; psychoacoustics, industrial noise sources, methods of
noise attenuation; community noise ordinances; instrumentation
for noise measurement. Lec.-lab.

EML 5241 LUBRICATION I (3)
PR: EGN 3354C, EGN 4421. The theoretical basis of lubri-
cation and hydrodynamic bearing theory. The study of lubri-
cation requirements of different types of machines.

EML 5273 ADVANCED DYMANICS OF
MACHINERY (3)
PR: EML 3264. A continuation of undergraduate course and
devoted to a more detailed study of velocities, accelerations and
forces in machine parts having reciprocating, rotating and com-
bined motion. A complete force analysis will be made of an in-
ternal combustion engine.

EML 5505 MECHANICAL DESIGN II (3)
PR: EML 4503. A continuation of EML 4503. Lec.-lab.

EML 5509 PROJECT DESIGN (3)
PR: CC. Correlation of previously acquired mechanical design
experiences with a creative design project. Lec.-lab.

EML 5528 ANALYSIS METHODS FOR
MECHANICAL DESIGN (3)
PR: EML 4500. Treatment of stress, strain and strength aspects
of Machine Design. Application of failure theories, residual
stresses and energy principles to machine elements.

EML 5608 MECHANICAL UTILITIES SYSTEMS (3)
PR: EML 4501. Analysis and design of a building's mechanical
systems for fire and lightning protection, air conditioning, water
supply, waste and storm drains.

EML 6054 AIR CONDITIONING SYSTEMS DESIGN (3)
PR: EML 4601, EML 6606 or CI. Design of an air conditioning
system from the concept stage to final plans and specifications,
stressing the practical application of basic theory and knowledge
of types of systems available.

EML 6222 VIBRATION ANALYSIS (3)
LaGrange's equation, matrix iteration, and other specialized
methods to discrete multimass systems.
ESI 4905 INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

GRADUATE COURSES

EIN 5218 HAZARD CONTROL ENGINEERING (3)
PR: Senior or graduate status. Open to non-majors. Nature of industrial accidents. Practices, standards, OSHA, and other governmental requirements for reducing accident frequency and severity in the industrial environment. Design measures for the prevention of health impairment due to non-accidental causes.

EIN 5245 HUMAN FACTORS (3)
PR: CC. Problems in the design, analysis, and evaluation of man-machine systems from the viewpoint of physical, mental, and psychological characteristics and limitations encountered.

EIN 5345 INVENTORY CONTROL (3)
PR: EIN 4335 or equivalent. Properties of inventory systems and the fundamentals of deterministic and probabilistic inventory models.

EIN 5353 ENGINEERING VALUATION STUDIES (3)
PR: CC. The analysis of economic considerations affecting engineering decision making. Not open to students who have had EIN 4352.

EIN 5389 TECHNOLOGICAL FORECASTING (3)
PR: Senior or graduate status. Open to non-majors. Recent developments in forecasting technical progress; morphological analysis, heuristic forecasts, intuitive methods, empirical and phenomenological models. Technology assessment.

EIN 5914, 5915, 5916 SPECIAL INDUSTRIAL PROJECTS I, II, III (1-3 each)
PR: CC.

EIN 6247 MAN/MACHINE SYSTEMS (3)
PR: EIN 5245. Principles of work measurement, process analysis, value analysis, and human factors and their application to industrial situations.

EIN 6336 PRODUCTION CONTROL SYSTEMS III (3)
PR: EIN 4335 or equivalent. Forecasting procedures, development of production plans, scheduling techniques, and inventory models. Application of EDP to production control systems.

EIN 6356 ADVANCED ENGINEERING VALUATION (3)
PR: EIN 4352 or equivalent. Statistical models for analyzing engineering alternatives from an economic viewpoint. The use of advanced engineering economy concepts in solving industrial problems.

EIN 6933 ADVANCED ENGINEERING SEMINAR (1-3)
PR: CC.

EIN 6934, 6935, 6936 SPECIAL INDUSTRIAL TOPICS I, II, III (1-3 each)
PR: CC.

EIN 6971 THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

ESI 5145 COMPUTER OPERATION (4)
PR: Graduate engineering or science status. EGN 2210 or equivalent, and CC. A comprehensive study of computer operating systems for mature students who have limited prior computer experience. Course covers material necessary to prepare the student for entry into the ESI 6146, ESI 6147, ESI 6148 sequence.

ESI 5216 ENGINEERING STATISTICS III (3)
PR: ESI 4215 or equivalent. Application of non-parametric statistics, sequential analysis, orthogonal polynomials and other optimization techniques to industrial problems.

ESI 5219 INDUSTRIAL STATISTICS (3)
PR: CC. Industrial applications of probability, testing of hypotheses, regression techniques, and analysis of variance. Not open to students who have had ESI 4215.

ESI 5222 STATISTICAL QUALITY CONTROL (3)
PR: EGN 3443 or equivalent. Application of statistical techniques to the control of industrial processes. Control charts and acceptance procedures. Sequential sampling.

ESI 5233 RELIABILITY ENGINEERING (3)

ESI 5245 DESIGN OF EXPERIMENTS II (3)
PR: ESI 4244. Continuation of material in ESI 4244.

ESI 5306 OPERATIONS RESEARCH (3)
PR: CC. Linear programming, game theoretic models, economic optimization. Not open to students who have had ESI 4315.

ESI 5505 FORTRAN APPLICATIONS II (3)
PR: ESI 4504 or equivalent. Advanced numerical methods using FORTRAN, applied to higher level problems in the individual student's field of engineering, mathematics, or applied science.

ESI 5522 COMPUTER SIMULATION II (3)
PR: ESI 4521. Continuation of material in ESI 4521.

ESI 6146 COMPUTER THEORY I (3)

ESI 6147 COMPUTER THEORY II (3)
PR: ESI 6146. Advanced concepts in programming languages. The interrelation between machine, assembly, and procedure oriented languages. Introduction to the design of monitors, assemblers, compilers.

ESI 6148 COMPUTER THEORY III (3)
PR: ESI 6147. Continuation and extension of ESI 6147 emphasizing detailed design principles used in the construction of monitors, assemblers and compilers.

ESI 6213, 6214 THEORY OF INDUSTRIAL STATISTICS I, II (3,3)
PR: ESI 4215 or equivalent. Theoretical distributions, continuous and discrete expectation and estimation, properties sampling distributions.

ESI 6227 STATISTICAL ASSURANCE PLANS (3)
PR: ESI 5222 or equivalent. Advanced techniques in sequential quality control systems and acceptance sampling plans.

ESI 6238 THEORY OF RELIABILITY (3)
PR: ESI 4215 or equivalent. Topics in statistical methodology which have applications in the field of reliability. Discrete and continuous distribution models, reliability estimation, reliability structure and growth models, and statistical design for reliability.

ESI 6247, 6248 STATISTICAL DESIGN MODELS I, II (3,3)
PR: ESI 6214 or equivalent. Design of experiment mathematical models, application of advanced analysis of variable techniques as applied to industrial problems.

ESI 6291 SPECIAL TOPICS IN STATISTICS (3)
PR: CC. Special topics in statistics related to research in engineering.

ESI 6336 QUEUEING THEORY (3)
PR: ESI 4215, ESI 4315. Deterministic and probabilistic queueing models. Poisson queues and special non-Poisson queues with exponential and non-exponential services. Single and multiple channel queues.

ESI 6341, 6346 STOCHASTIC PROCESSES I, II (3,3)
PR: ESI 5245. Theory and application of stochastic processes as models for empirical phenomena, with emphasis on the following processes: Poisson, stationary, normal, counting renewal, Markov, birth and death. Spectral representations, time series, smoothing and filtering.

ESI 6405 NONLINEAR AND DYNAMIC PROGRAMMING (3)
ESI 6414 LINEAR PROGRAMMING (3)  
PR: ESI 4315 or equivalent. The simplex method, degeneracy, duality theory; applications of linear programming to industrial problems.

ESI 6491 MULTIVARIABLE OPTIMIZATION (3)  

ESI 6550, 6551 INDUSTRIAL SYSTEMS DESIGN I, II (3,3)  
PR: ESI 4521. Design of integrated systems using statistical and operations research models. Simulation of integrated systems using digital, analog, and hybrid computers.

ESI 6552 EVALUATION OF SYSTEM PERFORMANCE I (3)  
PR: EGN 4421, ESI 4215, ESI 4314, or CC. Application of probability and random processes to the design and evaluation of physical systems from the viewpoint of satisfying prescribed specifications. System variabilities include random process inputs and system parameters treated as random variables. Problems.

ESI 6553 EVALUATION OF SYSTEM PERFORMANCE II (3)  
PR: ESI 6552. Continuation of ESI 6552 with special emphasis upon writing the computer software required to implement the evaluation algorithms. Advanced problems.

ESI 6906 INDEPENDENT STUDY (var.)  
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

ESI 6911 DIRECTED RESEARCH (var.)  
PR: GR. Master's level. Repeatable. (S/U only.)

ESI 6991 GRADUATE RESEARCH METHODS (1-5)  
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

ESI 6992 GRADUATE INSTRUCTION METHODS (1-5)  
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

ESI 7911 DIRECTED RESEARCH (var.)  
PR: GR. Ph.D. level. Repeatable. (S/U only.)

ESI 7980 DISSERTATION: DOCTORAL (var.)  
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Structures, Materials and Fluids

UNDERGRADUATE COURSES

CES 3400 DESIGN PRINCIPLES AND PRACTICES (2)  

CES 3401 JUNIOR DESIGN IN STRUCTURES, MATERIALS, FLUIDS (2)  
PR: Introductory Engineering Design. Introductory engineering design topics in structures, materials, fluids. Topics include design in drainage, metals, concrete, transportation systems, water supply, wastewater treatment, hydraulic modeling. Lec.-pro.

CES 3402 JUNIOR LABORATORY IN STRUCTURES, MATERIALS, FLUIDS (2)  
PR: Strength of Materials. Beginning laboratory experience in departmental facilities including the following laboratories: structures, mechanical testing, x-ray, corrosion, soils, surveying, stress analysis, fluids, water resources, dynamics. Laboratory records and reports are required. Lab.

CES 4001 STRUCTURES I (3)  
PR: CES 4104. Analysis of simple structural systems, both determinate and indeterminate. Introduction to the use of energy methods in indeterminate analysis. Lecture.

CES 4002 STRUCTURES II (3)  
PR: CES 4001. Introduction to the behavior of composite structural members; laminates, sandwich panels, reinforced concrete, timber and structures. Lec.-lab.

CES 4003 STRUCTURES III (3)  

CES 4004 STRUCTURES IV (3)  
PR: CES 4003. Analysis of suspension structures, towers, and tall buildings by both approximate and exact methods. Lec.-lab.

CES 4104 STRESS ANALYSIS (3)  
PR: EGN 3331, MAP 4302. Analytical and experimental analysis of the mechanical behavior of deformable solids. Elastic and inelastic methods, plastic limit analysis, flexure and torsion of beams, photostaticity, elastic strain gages, introduction to finite element computer methods. Lec.-lab.

CES 4124 STRUCTURAL MECHANICS (3)  

CES 4208 STRUCTURAL DYNAMICS (3)  

CES 4403 SENIOR DESIGN IN STRUCTURES, MATERIALS, FLUIDS (2)  
PR: Introductory Design Experience in Engineering. Intermediate level of design topics in structures, materials, fluids. Topics include design in structures, machine components, pipe flow, drainage, foundations, transportation systems, water supply, wastewater treatment, hydraulic modeling. Lec.-pro.

CES 4404 SENIOR LABORATORY IN STRUCTURES, MATERIALS, FLUIDS (2)  
PR: Introductory Lab Experience in Engineering. Intermediate experience in departmental facilities including the following laboratories: structures, mechanical testing, x-ray, corrosion, soils, surveying, stress analysis, fluids, water resources, dynamics. Laboratory records and reports are required. Lab.

CES 4501 CONCEPTS OF STRUCTURAL DESIGN (3)  
PR: CES 4001. Applications of solid mechanics, materials science, and structural analysis to the design of building, bridge, aircraft, and ship structures. Critical review of current codes and specifications. Lec.-lab.

CES 4541 STRUCTURAL CONNECTIONS (3)  
PR: CES 4001. Use of theoretical and experimental data in the analysis and design of structural connections in metal, wood, concrete and plastic. Lec.-lab.

CES 4617 STRUCTURAL DESIGN IN METALS (3)  
PR: CES 4003, CES 4501. Design of ductile metallic structural elements and systems. Lec.-lab.

CES 4702 REINFORCED CONCRETE STRUCTURES (3)  
PR: CES 4003, CES 4501. Design of reinforced concrete structures; interpretation and application of various codes and specifications governing design. Lecture.

CES 4711 PRESTRESSED STRUCTURES (3)  

CES 4911 SENIOR DESIGN PROJECT (3)  
PR: CES 4403. Problem-solving experience and training for seniors in research/design projects. Oral and written final reports are required.

ECI 4311 SOIL MECHANICS I (3)  
PR: EGN 3354C. Fundamental and experimental concepts in soil mechanics with emphasis on soil properties, soil moisture, soil structure, and shearing strength. Lecture.
ECI 4312  SOIL MECHANICS II  (3)
PR: ECI 4311. A study of the application of the principles of soil mechanics to problems in soils engineering. Lecture.

ECI 4633  ADVANCED HYDROLOGY LABORATORY  (3)
PR: ENV 4623. Practical experience in the solution of hydrologic problems including data collection, data processing, and the application of numerical computer models to watersheds.

ECI 4911  RESEARCH IN SMF  (1-4)
PR: CC.

EGM 4124C  EXPERIMENTAL MECHANICS I  (3)
PR: EGN 3354C. An introduction to the experimental methods used in the study of structures, materials, fluids. Lec.-lab.

EGM 4125C  EXPERIMENTAL MECHANICS II  (3)
PR: CC. Review of elasticity, boundary value problems, finite element solutions; static and dynamic applications, circuitry; grid, brittle coating methods. Lec.-lab.

EGM 4224  SOLID MECHANICS IV  (3)

EGM 4260  VIBRATIONS  (3)
PR: EGM 4430. Wave motion in solids and fluids, thermal and mechanical Shock wave transmission and attenuation; blast loading. Phase-plane analysis Lecture.

EGM 4340  ENGINEERING ANALYSIS SMF  (3)
PR: EGN 3211, MAP 4302. Computational methods for engineering problems found in Structures, Materials, and Fluids. Lec.-lab.

EGM 4430  INTERMEDIATE DYNAMICS AND VIBRATION  (3)
PR: EGN 3211, MAP 4302. Dynamics of discrete and distributed mass, spatial kinematics, and kinetics, inertia tensor, Euler equations, vibrations. Lecture.

EGM 4610  ANALYTICAL METHODS IN MECHANICS  (3)
PR: MAP 4302. Development of techniques of applied mathematics to SMF problems; partial differential equations, complex variable, vector and tensor analysis. Lecture.

EGM 4816  HYDRAULICS  (3)

EMA 4066  ENGINEERING POLYMERS  (3)
PR: CI. Structure and bulk properties of polymers. High elasticity, topics in viscoelasticity, the glass transition, irreversible deformation. Technology of plastics, fibers and elastomers. Lecture.

EMA 4205  STRENGTHENING PROCESSES IN MATERIALS  (3)
PR: EMA 4303L. Introduction to the separate and combined effects of the primary strengthening mechanisms in materials. Applications to the real material systems such as steels, titanium, beryllium, nickel and refractory metal alloys; and composites. Lecture.

EMA 4303L  MATERIALS ENGINEERING III  (3)
PR: EGN 3343, EGN 3365L. Principles of chemical thermodynamics as applied to the interaction of materials with various gaseous, aqueous, and solid phase environments. Lecture.

EMA 4324  CORROSION OF ENGINEERING MATERIALS I  (3)

EMA 4503C  EXPERIMENTAL METHODS IN MATERIALS ENGINEERING  (3)
PR: EMA 4303L or CI. Introduction to the experimental methods of metallography, X-ray diffraction, phase diagram determination, heat-treating techniques, and electron microscopy. Lec.-lab.

EMA 4584  CEMENT AND CONCRETE  (3)

EMA 4604  PROCESSES IN MATERIALS ENGINEERING  (3)
PR: EMA 4303L or CI. Introduction to the basic theories of solidification and ultrapurification of materials, discussion of the various techniques of welding and joining materials, and discussion of the primary methods of shaping and forming materials. Lecture.

EMA 4605  DIFFUSION  (3)
PR: EMA 4303L. Theoretical and practical analysis of diffusion in solids including the physical meaning and implications of the concepts which influence and apply to diffusion in crystalline solids. Lecture.

EMA 4644  ENGINEERING CERAMICS  (3)
PR: EGN 3365L. Detailed examination of the materials of ceramic engineering and the engineering properties of advanced ceramic products. Lecture.

EMA 4703  CONCEPT OF ENGINEERING MATERIALS  (3)

EMA 4704  SELECTION AND APPLICATION OF ENGINEERING MATERIALS  (3)
PR: EGN 3365L. Estimation and/or determination of the property requirements for the utilization of materials in specific applications; comparison of properties of metals, plastics, and ceramics; the effects of heat treatment, working, etc., on materials; property limitations exhibited by various materials. Lecture.

EMA 4905  INDEPENDENT STUDY  (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

ENV 3001  ELEMENTS OF ENVIRONMENTAL ENGINEERING  (4)
PR: CI. An introduction to the scientific and engineering principles needed for the enhancement of the quality of man's environment. Discussions of urban and non-urban, ionizing radiation, noise. The economic, aesthetic, legal and political aspects of environmental quality are considered.

ENV 4111  INTRODUCTION TO AIR POLLUTION CONTROL  (3)
PR: CI. Behavior and effects of atmospheric contaminants and the principles of making measurements in the air environment are studied. Basic concepts of meteorology and control technology are discussed. Regulatory aspects and air pollution standards are covered. Lecture.

ENV 4417  URBAN WATER SYSTEMS  (3)
PR: ENV 4622. A study of the engineering principles involved in the design and operation of urban water supply systems, urban drainage systems, urban waste collection systems, and urban waste water treatment systems.

ENV 4622  WATER RESOURCES ENGINEERING I  (3)
PR: EGM 4816. A study of the engineering principles involved in the sustaining and managing of the quality and quantity of water available for human activities with particular emphasis on hydrology and hydraulics. Lecture.

ENV 4623  WATER RESOURCES ENGINEERING II  (3)
PR: ENV 4622. A study of the engineering principles involved in the sustaining and managing of the quality and quantity of water available for human activities with particular emphasis on
water uses, engineering economy, and regional water resource development. Lecture.

**SUR 3101C ENGINEERING LAND SURVEYING (3)**
Principles of land surveying for engineering practice. Traverses, levels, boundary surveys, route surveys, coordinate geometry, and mapping.

**TTE 4004 TRANSPORTATION I (3)**
PR: MAP 4302. Introduction to Transportation Engineering. Lecture.

**TTE 4006 TRANSPORTATION II (4)**
PR: TTE 4004. Transportation system planning. Lecture.

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**GRADUATE COURSES**

**CES 6217 STRUCTURAL STABILITY (5)**
PR: CES 4003. Elastic and inelastic stability of trusses and frames, local buckling of structural members and plates. Lecture.

**CES 6336 STRUCTURAL OPTIMIZATION (5)**
PR: CES 4003, CES 4501. Use of optimization techniques in the design of structures including use of the digital computer as a design aid. Lec.-lab.

**CES 6508 ADVANCED STRUCTURAL DESIGN (5)**
PR: CES 4003, CES 4541. A study of design of more complicated structural systems such as curved bridges, orthotropic bridges, tall buildings, towers, suspension structures. Lecture.

**CES 6915 DIRECTED RESEARCH (var.)**
PR: GR. Master's level. Repeatable. (S/U only.)

**CES 6938 GRADUATE INSTRUCTION METHODS (1-5)**
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

**CES 6939 GRADUATE RESEARCH METHODS (1-5)**
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

**CES 7915 DIRECTED RESEARCH (var.)**
PR: GR. Ph.D. level. Repeatable. (S/U only.)

**EAS 5100 AERODYNAMICS (3)**

**ECI 6206, 6207 HYDROSPACE ENGINEERING I, II (3,3)**
PR: CI. Advanced analysis of structural, material, and fluid systems for marine environment, including underwater acoustics. Lecture.

**ECI 6208 COASTAL AND ESTUARY MODELING (3)**
PR: CI. Modeling of coastal and estuary systems, currents, tide heights, sediment transport, erosion, data collection, temperature distribution, sources, and sinks. Special emphasis on Florida. Lecture.

**ECI 6239 FREE SURFACE FLOW (4)**
PR: EGM 4816 or CI. Fundamental and applied aspects of free surface flow, including river hydraulics, canal flow, and open channel design. Lecture.

**ECI 6631 HYDROLOGIC MODELS (4)**
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.

**ECI 6632 URBAN HYDROLOGY (3)**
PR: CI. A study of the quantity and quality problems and solution techniques associated with the subject of urban runoff.

**ECI 6933 SPECIAL TOPICS IN SMF (1-4)**
PR: CC.

**ECI 6939 SMF SEMINAR (1-4)**
PR: CC.

**ECI 6971 THESIS: MASTER'S (var.)**
Repeatable. (S/U only.)

**ECI 7980 DISSERTATION: DOCTORAL (var.)**
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

**EES 6203 WATER QUALITY FOR ENGINEERS (3)**
PR: CI. An introduction to the form, structure, and biochemical activities of the important microorganisms which are essential to biological treatment processes for agricultural, domestic, and industrial wastewater.

**EGM 5352, 5353 FINITE ELEMENT METHODS I, II (3,3)**

**EGM 5562 MECHANICS OF COMPOSITE MATERIALS (3)**

**EGM 5611 CONTINUUM I (3)**
PR: CI. Development of fundamental problems in solids and fluids from a unified viewpoint; application to ideal media; elastic, plastic, viscous-elastic, and fluids. Lecture.

**EGM 5655 CONTINUUM II (3)**
PR: EGM 5611. Mathematical Theory of elasticity. Two dimensional problems in plane stress and plane strain using cartesian and curvilinear coordinates; three dimensional applications to torsion, bending, and semi-infinite solids. Lecture.

**EGM 5814 VISCOUS FLOWS (3)**
PR: EGN 3355C. Formulation of problems in the flow of viscous fluids. Mathematical methods and techniques of solutions.

**EGM 5817 POTENTIAL FLOW (3)**
PR: EGN 3354C. Mathematical hydrodynamics, inviscid flow. Lec.-lab.

**EGM 6136 ADVANCED X-RAY METHODS (4)**
PR: CI. X-Ray diffraction analytical and experimental studies of defects, texture, residual stress, crystal and polycrystalline aggregates. Lec.-lab.

**EGM 6261 SOLID MECHANICS V (3)**

**EGM 6343 NUMERICAL METHODS IN ENGINEERING ANALYSIS (3)**
PR: CI. Application of computational and mathematical techniques and principles to advanced engineering problems concerning structures, materials, and fluids. Lecture.

**EGM 6391 APPLIED TENSOR ANALYSIS (3)**
PR: CI. Tensor analysis applied to structures, materials, fluids. Lecture.

**EGM 6451 NONLINEAR DYNAMICS (3)**

**EGM 6656 ADVANCED ELASTIC ANALYSIS (3)**
PR: CI. Contemporary elasticity theory and applications. Lecture.

**EGM 6675 CONTINUUM MECHANICS III (3)**
PR: CI. Theory of Plasticity. Initial and subsequent yield surfaces, incremental and deformation theories, flow theories; problems in ideal plasticity, strain hardening and slip line fields. Lecture.

**EGM 6676 CONTINUUM MECHANICS IV (3)**
ENV 6645 WATER RESOURCES SYSTEMS I (3)
PR: ENV 6645. The planning, design, and operation of water resource systems by the use of systems analysis and operations research techniques. Lecture.

Computer Service Courses

UNDERGRADUATE COURSES

CDA 3040 S.C. INTRODUCTION TO COMPUTERS IV (3)
PR: CDA 3102. Continuation of the material in CDA 3102. (No credit for engineering majors.)

CDA 3101 S.C. INTRODUCTION TO COMPUTERS II (3)
PR: COC 3300, COP 3110. Component parts of a computer system. Internal representation and manipulation of data and program instructions. Algorithms and flowcharting. Programming languages and systems. (No credit for engineering majors.)

CDA 3102 S.C. INTRODUCTION TO COMPUTERS III (3)
PR: CDA 3101. Continuation of the material in CDA 3101. (No credit for engineering majors.)

COC 3300 S.C. INTRODUCTION TO COMPUTERS I (3)
Basic principles of computer operation, program structure, machine and assembly language.

COP 3110 S.C. COMPUTER PROGRAMMING-FORTRAN (3)
PR: COC 3300. Programming of scientifically oriented problems using FORTRAN. Introduction to the use of the systems library.

COP 3120 S.C. COMPUTER PROGRAMMING—COBOL I (3)

COP 3121 S.C. COMPUTER PROGRAMMING—COBOL II (3)
PR: COP 3120. Advanced applications of COBOL. Development of matrix structures, subscripting and data manipulating techniques as used in comprehensive data processing problems.

COP 3130 S.C. COMPUTER PROGRAMMING—RPG (3)
PR: COC 3300. Programming of both business and scientifically oriented problems. Manipulation of data records. Control sequencing and transmission of data.

COP 3160 S.C. COMPUTER PROGRAMMING—GPSS-SIMSCRIPT (3)
PR: COP 3110 or equivalent. SIMSCRIPT AND GPSS will be used to implement and analyze general types of simulation.

GRADUATE COURSES

CAP 5812 S.C. COMPUTERS FOR RESEARCH I (3)
PR: Graduate student status. The use of FORTRAN IV and WATFIV languages in solving research problems.

CAP 6813 S.C. COMPUTERS FOR RESEARCH II (3)
PR: CAP 5812 or equivalent. Continuation of the material covered in CAP 5812. Use of computer library programs and plotting equipment.

COP 5401, 5402 S.C. COMPUTER LANGUAGES AND COMPUTATION I, II (3,3)
PR: CRM 5115. Study of principles of machine assembly and compiled languages. Programming applications.
Engineering Technology

UNDERGRADUATE COURSES

BCN 4570 ACOUSTICS IN CONSTRUCTION TECHNOLOGY
Fundamentals of architectural acoustics, behavior of sound in closed spaces, noise control, and noise reduction.

ETC 4420 FUNDAMENTAL TOPICS IN CONSTRUCTION TECHNOLOGY II
PR: ETG 4504. Selection and application of materials in construction technology with associated consideration of material properties, change of properties and environmental effects.

ETE 4533 FUNDAMENTAL TOPICS IN POWER GENERATION
PR: Enrollment in Engineering Technology Program or Cl. Introduction to thermodynamics, forms of energy and energy equations, processes of a perfect gas, thermodynamic cycles, properties of steam, Rankine Cycle, equipment survey, heat transfer, fluid flow, combustion and mixtures of gases and vapors.

ETE 4905 INDEPENDENT STUDY
PR: Cl. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

ETG 4504 FUNDAMENTAL TOPICS IN CONSTRUCTION TECHNOLOGY I
PR: MAC 2244 or equivalent. Introduction to the principles of statics, equilibrium of rigid bodies, friction, strength of materials and application of materials and their properties in design of structures.

ETG 4931 SPECIAL TOPICS IN TECHNOLOGY I
PR: CC.

ETG 4932 SPECIAL TOPICS IN TECHNOLOGY II
PR: CC.

ETG 4933 SPECIAL TOPICS IN TECHNOLOGY III
PR: CC.

ETI 4600 INDUSTRIAL SYSTEMS
Introduction to organizational planning and control functions in industrial systems.

ETI 4614 PRINCIPLES OF INDUSTRIAL OPERATIONS I
PR: ETK classification or CC. Techniques of work measurement and methods design.

ETI 4644 PRINCIPLES OF INDUSTRIAL OPERATIONS II
PR: ETK classification or CC. Techniques of production control and inventory control.

ETI 4661 PRINCIPLES OF INDUSTRIAL OPERATIONS III
PR: ETI 4600, ETI 4614, ETI 4644. Techniques of plant location and layout.

ETM 4610 FUNDAMENTAL TOPICS IN AIR CONDITIONING
PR: Enrollment in Engineering Technology Program or Cl. Introduction to thermodynamics, forms of energy and energy equations, processes of a perfect gas, thermodynamic cycles, refrigeration cycles, properties of refrigerants, heat transfer and fluid flow, mixtures of gases and vapors, preliminary psychrometrics and analysis of motors.

ETM 4700 CLIMATE CONTROL IN BUILDINGS
PR: Enrollment in Engineering Technology Program or Cl. Heat and moisture in the atmosphere and human comfort, heat loads, heat sources, heat and ventilation distribution in spaces, air conditioning and air distribution, control of temperature and humidity.

ETM 4750 AIR CONDITIONING SYSTEMS DESIGN I
PR: ETM 4610 or Cl. Heating and Air Conditioning Load Calculations, design of packaged air conditioning systems, system selection, equipment selection and installation, ductwork design and air distribution, use of outside air with problems in bypassing and recirculation.

ETM 4750C AIR CONDITIONING SYSTEMS DESIGN II
PR: ETM 4750 or Cl. Design of applied air conditioning systems, advanced load calculations, system selection, chilled water systems, multizone systems, equipment survey: coils, chillers, fans and pumps, associated electrical equipment, controls, humidification, dehumidification, and installation.

ETM 4930 AIR CONDITIONING DESIGN SEMINAR
PR: ETM 4750C. Consideration of the total air conditioning system from the view of design engineer, client, and contractor. Specification writing, load calculation, system selection and installation, and cost criteria.

EVS 4550 SANITARY ENGINEERING IN CONSTRUCTION TECHNOLOGY
Water, water systems, and water supply. Sanitation and waste disposal, piping systems for hot and cold water, plumbing for sewage disposal and storm drainage.

GRADUATE COURSES

ETE 5100 INTRODUCTION TO ELECTRONICS FOR SCIENTISTS
Basic electronic devices and instruments, dc and ac circuits, diodes and power supplies, transistor, circuits, integrated circuits, laboratory instruments, transducers and special instruments. (2 three hour lecture labs, 1 two hour problem discussion). No credit toward graduate degree requirements.

ETM 6931 SPECIAL TECHNICAL TOPICS I
PR: CC

ETM 6932 SPECIAL TECHNICAL TOPICS II
PR: CC.

ETM 6933 SPECIAL TECHNICAL TOPICS III
PR: CC.

ENGLISH


UNDERGRADUATE COURSES

AML 3010 HIGHLIGHTS OF AMERICAN LITERATURE TO 1945
An introductory course consisting of selected highlights of American literature from the beginnings to 1945.
AML 3102 ROMANTIC AMERICAN LITERATURE
TO 1860
A study of the thought and art in poetry and prose of representative writers of the American Romantic period, with emphasis upon Emerson, Thoreau, Poe, Hawthorne, and Melville.

AML 3103 AMERICAN LITERATURE OF THE COLONIAL-FEDERAL PERIOD
The social, philosophic, political, and aesthetic foundations of American literature, from the period of early settlement through the writings of Cooper, Irving, and Bryant.

AML 3107 AMERICAN LITERATURE FROM 1860 TO 1912
A study of representative works of selected American Realists and early Naturalists, among them Whitman, Dickinson, Twain, James, Howells, Crane, Dreiser, Wharton, Robinson.

AML 3111 MODERN AMERICAN LITERATURE
FROM 1912 TO 1945
A study of poetry, drama, and fiction by such writers as Pound, Fitzgerald, Hemingway, Faulkner, Cummings, Williams, Anderson, Lewis, Steinbeck, Wright, Wolfe, West, Stevens, Henry Miller, and others.

AML 4214 MAJOR AMERICAN AUTHORS
The study of two or three related major authors in American Literature, focusing on several major figures; the course may include such writers as Melville and Hawthorne, Hemingway and Faulkner, James and Twain, Pound and Eliot, Stevens and Lowell, etc. Specific topics will vary each quarter. May be repeated with different topics two times.

AML 4320 LITERATURE OF THE SOUTH
PR: One course in American literature. A study of the major writers of the "Southern Renaissance," including writers such as Faulkner, Wolfe, Caldwell, Hellman, McCullers, O'Connor, Warren, Styron, Allen Tate, and Donald Davidson.

CRW 3320 IMAGINATIVE WRITING: FICTION
PR: ENC 3486. Introduction to the writing of fiction. This course will introduce students to the variety of forms and techniques in the writing of imaginative prose.

CRW 3330 POETIC FORMS
Study of the basic elements of poetry for reader and writer. Beginning with poetic language and devices used to create forms (haiku, tanka, ballad, song), progressing to basic prosody, rhyme, and stanza pattern, the student is trained in and learns to write fixed forms from couplet to sonnet. Consideration of the triolet, villanelle, sestina, blank verse, free verse, and naked poetry. Lyric, narrative, and dramatic poems from world literature serve as models.

CRW 3321 THE WRITING OF POETRY
Introduction to the writing of poetry. This course introduces the student to a variety of forms and techniques in the writing of poetry.

CRW 4240 WORKSHOP IN FICTION
Study and writing of the short story and sections of the novel. Evaluation of student work in conferences, selected readings. May be taken twice for credit.

CRW 4340 WORKSHOP IN POETRY
Self-expression in traditional and contemporary forms. Student-teacher conferences and classroom discussion. Selected readings. May be taken twice for credit.

ENC 0013 DEVELOPMENTAL ENGLISH
Instruction and practice in the review of the fundamentals of English. Includes developmental work in English as applied in writing, with emphasis on grammar, punctuation, mechanics of expression and sentence structure. Students completing this course will by-pass ENC 1102.

ENC 1102, 1135, 1168 FRESHMAN ENGLISH
Instruction and practice in the skills of writing and reading. Courses must be taken in numerical sequence. Credit for Freshman English may be earned by examination.

ENC 3016 PRACTICAL GRAMMAR AND USAGE
Coverage of the traditional forms and practices of English grammar. A study of sentence patterns, sentence structure, agreement, punctuation, pronoun case, and related matters.

ENC 3466 ADVANCED EXPOSITORY WRITING
A course teaching the techniques for writing effective prose, excluding fiction, in which student essays are extensively criticized, edited, and discussed in individual sessions with the instructor.

ENC 3486 NARRATION AND DESCRIPTION
Writing short papers in narration and description, and the personal essay; analyzing selected essays to heighten sensitivity to language.

ENG 2201 INTRODUCTION TO LITERATURE: FICTION
An examination of the short story and the novel as literary forms; not limited to any historical period. Will not be counted toward the English major.

ENG 2231 CURRENT SHORT FICTION
Traditional and experimental short stories of this generation; such writers as Updike, Malamud, O'Connor, Roth, Barth, Ionesco, and Barthelme. Will not be counted toward the English major.

ENG 2300 CURRENT NOVELS
A study of major British and American novels since WW II; attention will be given to the cultural influences and recent literary trends. Will not be counted toward the English major.

ENG 2401 INTRODUCTION TO LITERATURE: DRAMA
A study of the major forms of drama—tragedy, comedy, melodrama, farce; including the works of such playwrights as Sophocles, Shakespeare, Moliere, Ibsen, Chekhov, and Shaw. Will not be counted toward the English major.

ENG 2460 CURRENT DRAMA
A study of recent forms and themes in drama from Theatre of the Absurd to the present, including works of such playwrights as Beckett, Ionesco, Genet, Pinter, and Albee. Will not be counted toward the English major.

ENG 2711 INTRODUCTION TO LITERATURE: POETRY
How poems work. Stress on the understanding and enjoyment of poems with attention to new forms and techniques; not restricted to any specific period. Will not be counted toward the English major except for those students following the Creative Writing: Poetry option.

ENG 3133 SHAKESPEARE: TEXTS AND FILMS
An introduction to the art of William Shakespeare through a comparative analysis of four of his most famous dramas and modern film adaptations of them; Hamlet, King Lear, Romeo and Juliet and Henry V.

ENG 3138 MODERN DRAMA AND FILM
A study of such major modern dramatists as Ibsen, Strindberg, Chekhov, Shaw, Brecht, Beckett, Ionesco, Weiss, and Pinter. Films will demonstrate the possibilities of visualization.

ENG 3150 AMERICAN POPULAR LITERATURE: THE ROARING TWENTIES
An exploration of the interaction of film, literature, and the popular arts in the Roaring Twenties of the U.S. Traces the movement of American culture from Main Street and Spoon River to the Modern Urban Metropolis. Studies of such figures as Fitzgerald, Cummings, Hemingway, Stein, E. A. Robinson, Sandburg, Chaplin, and Bessie Smith.

ENG 3152 TWENTIETH CENTURY BEST SELLERS
A study of representative best-selling novels in 20th century America; including such critically acclaimed works as Peyton Place, Lady Chatterley's Lover, Exodus, and Catcher in the Rye, which have sold in excess of 5,000,000 copies and have served to portray our changing society and to reveal our changing literary taste.
ENG 222 MUSEUMS AND THE POPULAR ARTS (5)
Exploration into the nature and function of modern literature, film, and some of the popular arts like comic books, graphic novels, and television. Writers included are: Flaubert, Conrad, Lawrence, Mann, Kafka, Bellow, Roth, and others.

ENG 3294 MODERN SHORT NOVEL (5)
A study of the novel from the 19th century to the present. Writers included are: Flaubert, Conad, Lawrence, Mann, Kafka, Bellow, Roth, and others.

ENG 3371 MODERN EUROPEAN NOVEL (5)
A study of the Modern European novel in translation as it developed from the 19th century to the present, including such writers as Dostoevsky, Flaubert, Kafka, Hesse, Camus, and Solzhenitsyn.

ENG 4113 RESTORATION AND EIGHTEENTH CENTURY SATIRE (5)
A study of selected Neoclassical satires, the techniques of their expression, and the historical conflicts out of which they arose.

ENG 4204 THEORY OF FICTION (5)
Intensive study of the genres and varieties of fiction to ascertain the theoretical and technical problems involved in the work of fiction.

ENG 4223 MODERN AMERICAN FICTION (5)
A study of major trends and influences in American prose fiction from 1920 to the present. Includes works by such writers as Hemingway, Faulkner, Wolfe, Fitzgerald, Steinbeck, Anderson, Welty, Malamud, Roth, Barthelme, and others.

ENG 4227 MODERN BRITISH FICTION (5)
A critical study of British fiction, from 1900 to the present, with emphasis on such writers as Conrad, Lawrence, Joyce, Woolf, Forester, Huxley, Waugh, Durrell, Burgess, Powell and others.

ENG 4321 EIGHTEENTH CENTURY BRITISH NOVEL (5)
A study of the emergence of modern realistic prose fiction in the eighteenth century, with emphasis on Fielding, Richardson, Smollett, and Sterne.

ENG 4325 NINETEENTH CENTURY BRITISH NOVEL (5)
A study of such major British novelists as Austen, Scott, Thackeray, Dickens, the Brontes, Eliot, Meredith, and Hardy.

ENG 4345 THE AMERICAN NOVEL (5)
A study of major American novelists through representative novels. Authors studied may include Cooper, Hawthorne, Melville, James, Twain, Dreiser, Hemingway, Faulkner, Bellow, and others.

ENG 4421 ENGLISH DRAMA FROM THE BEGINNINGS TO 1642 (5)
The emergence of drama in England from its liturgical origins through the mystery and morality plays to its significant achievement in the Renaissance. Excludes Shakespeare; emphasis upon Marlowe, Jonson, Webster, and Middleton.

ENG 4424 DRAMA OF THE RESTORATION AND EIGHTEENTH CENTURY (5)
A study of the bawdy theatre of Charles II's court, as it reflects and projects English social life in the 18th century, and an analysis of the development of 18th century drama. Investigates relationships among drama, novel, and English opera. Included are representative works by Wycherley, Dryden, Congreve, Lillo, Gay, Goldsmith, and Sheridan.

ENG 4453 AMERICAN DRAMA (5)
A historical-analytical study of American drama from the 19th century to the present. Included are such playwrights as Boker, Boucicaut, Herne, O'Neill, Howard, Rice, Hellman, Williams, Miller, Albee, and Hansberry.

ENG 4464 MODERN DRAMA (5)
A study of major dramatists from the rise of Realism up to the Theatre of the Absurd, including works by Ibsen, Strindberg, Shaw, Chekhov, Pirandello, Brecht, Beckett, Ionesco, Pinter, and others.

ENG 4512 HISTORY OF THE ENGLISH LANGUAGE (5)
The evolution of language from Anglo-Saxon through Middle English to Modern English. Changes in the pronunciation, syntactic, and semantic systems; discussion of the forces which influenced them; a consideration of how these changes may influence the interpretation of literature.

ENG 4742 MODERN BRITISH AND AMERICAN POETRY FROM 1900 TO 1945 (5)
Study of selected Modern British and American Poets from Hopkins to Auden, with attention to poetic theory.

ENG 4744 CONTEMPORARY BRITISH AND AMERICAN POETRY FROM 1945 TO THE PRESENT (5)
Intensive study of six or seven contemporary poets: Theodore Roethke, Robert Lowell, Allen Ginsberg, Denise Levertov, Sylvia Plath, Edward Field, Bob Dylan, or others.

ENG 4814 LITERARY CRITICISM (5)
A study of the works of major literary critics from Aristotle to the present, with emphasis on their meaning, their implied world view, and their significance for our own time and literature.

ENG 4900 DIRECTED READING (5)
Readings in special topics.

ENG 4906 INDIVIDUAL RESEARCH (1-5)
Directed study in special projects. Special permission of chairperson required.

ENL 3010 EARLY ENGLISH LITERATURE (5)
A survey of representative works of poetry, prose, and drama of the Old English, Middle English, and early Renaissance to 1557, including Beowulf, Chaucer, Malory, More, Hooker, Skelton, Wyatt, among others.

ENL 3030 HIGHLIGHTS OF BRITISH LITERATURE TO 1750 (5)
An introductory course consisting of selected highlights of English literature from the Middle Ages to 1750.

ENL 3041 HIGHLIGHTS OF BRITISH LITERATURE 1750 TO 1945 (5)
An introductory course consisting of selected highlights of English literature from 1750 to 1945.

ENL 3133 SHAKESPEARE I (5)
Reading of eight to ten representative plays, with special attention to developing the students' ability to read and interpret the text.

ENL 3320 LITERATURE OF THE ENGLISH RENAISSANCE (5)
A survey of representative works of poetry, prose, and drama of the English Renaissance, from approximately 1558 to 1649, including Sidney and Spenser to Donne and Marvell, with special attention to the emergence of the New Poetry.

ENL 3351 THE RISE AND DECLINE OF NEOCLASSICAL LITERATURE (5)
A survey of Neoclassical English literature beginning with Marvell and the late work of Milton, and ending with the late Neoclassicism of Johnson, Boswell, and Goldsmith.

ENL 3401 ROMANTIC LITERATURE (5)
The poetry and poetics of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats; with attention to the lesser figures, the eighteenth century background, and the continuing importance of romantic thinking in contemporary affairs and letters.

ENL 3430 VICTORIAN AND EDWARDIAN LITERATURE (5)
A survey of representative figures of the Victorian and Edwardian periods, ending in 1914, including poetry, prose, and drama of such authors as Carlyle, Tennyson, Browning, Swinburne, Rossetti, Dickens, Wilde.
ENL 3441 MODERN BRITISH LITERATURE FROM 1914 TO 1945
Survey of poetry, drama, and fiction of such writers as Eliot, Yeats, Thomas, Conrad, Shaw, Joyce, Lawrence, Huxley, Woolf, Forster, Waugh, Owen, Auden, O'Casey, among others. (5)

ENL 4062 MAJOR BRITISH AUTHORS
The study of two or three related major authors in English literature, focusing on several major figures; the course may include such writers as Fielding and Austen, Thackeray and Dickens, Keats and Yeats, Donne and Marvell, Woolf and Joyce, etc. Specific topics will vary each quarter. May be repeated with different topics two times. (5)

ENL 4112 CHAUCER
An intensive study of The Canterbury Tales and major critical concerns. (5)

ENL 4121 MILTON
Study of the poetry and major prose of John Milton, with special emphasis on Paradise Lost. (5)

ENL 4134 SHAKESPEARE II
Three or four of Shakespeare's greatest dramas seen in depth; the close reading of the text, the controversies of interpretation, and the Elizabethan and Jacobean setting. (5)

ENL 3430 ANGLO SAXON LITERATURE
A study of English heroic culture as presented in the literature occurring before 1066, such as Beowulf; the Battle of Maldon, the Seafarer, and Selected Charms and Spells. (5)

ENL 4311 MIDDLE ENGLISH LITERATURE
An intensive study on one or more formal types occurring between 1066 and 1500, such as the Romance, The Dream-Vision, the Arthurian tradition, the drama, and lyrics and ballads. (5)

ENL 4331 SIXTEENTH CENTURY PROSE AND POETRY
A study of representative prose, including fiction, and the lyric and narrative poetry of Sidney, Spenser, Marlowe, and Shakespeare, together with selected poems of Donne. (5)

ENL 4344 SEVENTEENTH CENTURY LITERATURE: FORM, GENRE, AND MODE
Study of one or more types, genres, modes, and themes of English literature; 1600-1660, such as metaphysical Poetry, Cavalier Mode, Devotional Literature, New Philosophy, Analytical Prose, Verse Satire. Specific topics will vary. (5)

ENL 4406 ROMANTIC LITERATURE: FORM, GENRE, AND ARCHETYPE
An intensive study of one or more formal types of British literature occurring between 1785 and 1832, such as Romantic Nature Poetry, Romantic Historical Novels and Poems, etc. Specific topics will vary. (5)

ENL 4415 VICTORIAN LITERATURE: FORM, GENRE, AND ARCHETYPE
An intensive study of one or more formal types of Victorian literature, such as the essay, the lyric, the longer poem, prose fiction, etc. Specific topics will vary. (5)

ESL 1385 ENGLISH AS A SECOND LANGUAGE—COMPOSITION
PR: Some previous study of English. Practice and drill in basic English sentence patterns, with emphasis on writing, punctuation, vocabulary, and idiom. The course is designed as a service course for foreign students enrolled in the University. (3)

LIN 4370 STRUCTURE OF AMERICAN ENGLISH
An introductory survey of traditional, structural, and generative- transformational grammars and their techniques for the analysis and description of linguistic structure in general, and contemporary American English in particular. (5)

LIN 4420 LINGUISTICS AND LITERATURE
The application of relevant materials from the fields of comparative and descriptive linguistics to analysis and interpretation of literature—poetry, prose, and drama, with a view to complementing the traditional modes. (5)

LIT 2000 INTRODUCTION TO LITERATURE: GENERAL
The nature and significance of literature in its various forms: fiction, drama, poetry; emphasis on the techniques of reading literature for intelligent enjoyment. Will not be counted toward the English major. (5)

LIT 3150 CONTEMPORARY BRITISH AND AMERICAN LITERATURE FROM 1945 TO THE PRESENT
An introduction to the fiction, poetry, and drama of such writers as Beckett, Ginsberg, Nabokov, Roethke, Plath, Vonnegut, Welty, Malamud, Durrell, Mailer, MacLeish, and others. (5)

LIT 3252 LITERATURE OF THE WESTERN WORLD: ANCIENT
The Bible, the best modem English translations of Homer, Aeschylus, Sophocles, Euripides, Aristophanes, Plato, or others among the Greeks; of Virgil, Ovid, Juvenal, Sappho, Petronius or others among the Romans. (5)

LIT 3254 LITERATURE OF THE WESTERN WORLD: MEDIEVAL, RENAISSANCE, AND NEOCLASSICAL
A study in English of such writers as Dante, Boccaccio, Machiavelli, Rabelais, Montaigne, Moliere, among others, and of their cultural and intellectual settings. (5)

LIT 3257 LITERATURE OF THE WESTERN WORLD: MODERN
A study in English of Voltaire, Rousseau, Goethe, Baudelaire, Tolstoy, Mann, Lorca, Brecht, or others; the great literary traditions of Romanticism, Naturalism, and Symbolism. (5)

LIT 3281 FOLKLORE AND POPULAR LITERATURE
Literature of fairytales, folksongs, ballads, and blues. Perrault, Grimm, Andersen, and others; traditional British and American ballads and folksongs; modern ballads and blues from folk, country, delta, and big city sources; the songs of Bob Dylan and friends. (5)

LIT 3311 THE BIBLE AS LITERATURE
Major emphasis on literary types, literary personalities of the Old and New Testaments, and Biblical archetypes of British and American literary classics. (5)

LIT 3314 THE TALMUD AS LITERATURE
An introduction to the artistic elements of one of the great books of the Jewish religion. Emphasis on stories, fables, legends (Agaddah), but some general background in Talmudic structure and history is also provided. No previous knowledge of Judaism or religious texts is required. (5)

LIT 3323 AMERICAN INDIAN LITERATURE
A survey of native American Literature from pre-Columbian religious and folk literature to the current voices in the pan-Indian movement. (5)

LIT 3332 BLACK LITERATURE
A study of Black American literature from the nineteenth-century to the present, including the works of such writers as W. E. B. DuBois, Jean Toomer, Langston Hughes, Richard Wright, Ralph Ellison, LeRoi Jones, and Nikke Giovanni. (5)

LIT 3414 THE IMAGE OF WOMEN IN LITERATURE I
A study of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from Sappho through Shakespeare, with special emphasis on how this early literature has perpetuated cultural myths, rituals, superstitions, and misconceptions about women. (Also offered under Women's Studies.) (5)

LIT 3415 THE IMAGE OF WOMEN IN LITERATURE II
A study of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from the 17th century to the present, with special emphasis on women writers and on the emergence of the women's movement. (Also offered under Women's Studies.) (5)
LIT 3431 RELIGIOUS AND EXISTENTIAL THEMES (5)
Theological and philosophical ideas, allusions, and symbols in the writings of Dostoevsky, Nietzsche, Mann, Joyce, Eliot, Camus, Sartre, and others.

LIT 3442 FANTASY AND SCIENCE FICTION (5)
A survey of fantasy and science fiction in England and America from Mary Shelley to the present; includes such writers as Poe, Melville, Ray Bradbury, Arthur C. Clarke, among others.

LIT 3446 LITERATURE AND THE OCCULT (5)
An introduction to the occult tradition as a major ingredient in English, Continental, and American literature; analysis of the origins, classifications, and areas of the various magic arts from classical times through the present.

LIT 3930 SELECTED TOPICS IN ENGLISH STUDIES (1-5)
Varying from quarter to quarter, the course examines in depth a predominant literary theme or the work of a select group of writers.

LIT 4930 SELECTED TOPICS IN ENGLISH STUDIES (1-5)
The content of the course will be governed by student demand and instructor interest. It will examine in depth a recurring literary theme or the work of a small group of writers. Special courses in writing may also be offered under this title. May be repeated for different topics.

REA 0105 DEVELOPMENTAL READING (3)
Designed to help students develop maximum reading efficiency, the course includes extensive instruction and laboratory practice in the improvement of adequate rates of reading, vocabulary, and comprehensive skills. An independent study approach is also available for students who prefer to assume responsibility for their own progress.

REA 2405 SPEED READING DEVELOPMENT (3)
A course designed to develop speed reading techniques on various levels of difficulty. Emphasis is placed on comprehension via numerous practice drills. Will not be counted toward the English major. (S/U only.)

REA 3505 VOCABULARY (4)
A practical course in rapid vocabulary improvement for students in all areas. Stress is on words in context. Will not be counted toward the English major.

GRADUATE COURSES

AML 6132 STUDIES IN AMERICAN LITERATURE TO 1860 (5)
PR: Graduate standing. Selected focused studies in American literature before 1860: the Puritans, Franklin, Cooper, Irving, Poe, Emerson, Hawthorne, Melville, and others. May be retaken with different subject matter three times.

AML 6137 STUDIES IN AMERICAN LITERATURE 1860-1920 (5)
PR: Graduate standing. Selected focused studies in American literature: Whitman, Twain, Howells, James, Crane, Dreiser, and others. May be retaken with different subject matter three times.

AML 6138 STUDIES IN MODERN AMERICAN LITERATURE (5)
PR: Graduate standing. Modern American drama, poetry, fiction, and literary criticism; authors include Faulkner, Hemingway, Fitzgerald, O'Neill, Anderson, Wolfe, Cummings, Frost, and Eliot. May be retaken with different subject matter three times.

ENG 6062 BIBLIOGRAPHY FOR ENGLISH STUDIES (2)
PR: Graduate standing. Detailed study of bibliographies of cultural milieus, genres, periods, and authors.

ENG 6516 STUDIES IN ENGLISH LANGUAGE AND LINGUISTICS (5)
PR: ENG 4512 and LIN 4370, or CI. 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.

ENG 6832 SCHOLARSHIP AND CRITICISM (5)
PR: Graduate standing. Selected focused study of research approaches to English. May be retaken with different subject matter once.

ENG 6837 STUDIES IN STYLE (5)
(Advanced Composition for Teachers)
PR: Graduate standing. Poetics, rhetoric, dramatic style, prose style, short fiction, the novel, and the essay. May be retaken with different subject matter three times.

ENG 6917 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

ENG 6937 GRADUATE SEMINAR IN ENGLISH (5)
PR: Consent of graduate adviser. May be retaken with different subject matter to a maximum of ten hours.

ENG 6971 THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

ENG 7917 DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

ENG 7938 DOCTORAL SEMINAR (5)
PR: Admission to Ph.D. Program. This seminar provides intensive small-group discussion as well as shared and individual guided research in a student's area of doctoral specialty. Repeatable up to 10 credit hours.

ENG 7980 DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

ENL 6304 STUDIES IN OLD ENGLISH (5)
PR: Graduate standing. A study of Old English language, prose style, poetry. May be retaken with different subject matter three times.

ENL 6315 STUDIES IN MIDDLE ENGLISH (5)
PR: Graduate standing. Selected focused studies in language and in various authors and writings, 1100-1500: Chaucer, the Pearl poet, Everyman, ballads, drama. May be retaken with different subject matter three times.

ENL 6333 STUDIES IN SIXTEENTH-CENTURY BRITISH LITERATURE (5)
PR: Graduate standing. Selected focused studies in 16th-century British literature: Shakespeare, Sidney, Spenser, Marlowe, and others. May be retaken with different subject matter three times.

ENL 6349 STUDIES IN SEVENTEENTH-CENTURY BRITISH LITERATURE (5)
PR: Graduate standing. Selected focused studies in British literature, 1600-1660: Bacon, Donne, Jonson, Herbert, Milton, and others. May be retaken with different subject matter three times.

ENL 6392 STUDIES IN RESTORATION AND EIGHTEENTH-CENTURY BRITISH LITERATURE (5)
PR: Graduate standing. Selected focused studies in Restoration-Eighteenth-Century British literature: Dryden, Defoe, Pope, Swift, Fielding, Sheridan, Johnson, Boswell, and others. May be retaken with different subject matter three times.

ENL 6407 STUDIES OF THE ENGLISH ROMANTIC PERIOD (5)
PR: Graduate standing. A study of pre-Romantic and Romantic prose, fiction, nonfiction, and poetry. May be retaken with different subject matter three times.

ENL 6418 STUDIES IN VICTORIAN LITERATURE (5)
PR: Graduate standing. A study of Victorian poetry, Victorian fiction, Victorian non-fictional prose, and Victorian drama. May be retaken with different subject matter three times.

ENL 6447 STUDIES IN MODERN BRITISH LITERATURE (5)
PR: Graduate standing. A study of Irish and English drama, the modern novel, poetry, criticism, and the short story. May be retaken with different subject matter three times.
FOL 6375 PROBLEMS IN COLLEGE ENGLISH 
INSTRUCTION: COMPOSITION (5)
PR: Graduate standing. An examination of the objectives of freshman English and an investigation of current techniques for achieving those objectives, emphasizing the problems of developing critical reading and the techniques of expository writing at the college level.

FOL 6389 PROBLEMS IN COLLEGE ENGLISH 
INSTRUCTION: LITERATURE (5)
PR: Graduate standing. A course that allows the prospective college English teacher to experiment with teaching techniques that will determine the most effective ways to teach literature and that will teach college English teachers the variety and importance of literary techniques and their relevance to subject matter.

FOL 6392 GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 3 credits per student. (S/U only.)

FOL 7376 PROBLEMS IN ADVANCED ENGLISH 
INSTRUCTION OF COMPOSITION (5)
PR: Admission to the Ph.D. program in English. 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.

FOL 7390 PROBLEMS IN ADVANCED ENGLISH 
INSTRUCTION AND SCHOLARLY RESEARCH (5)
PR: Ph.D. Candidacy. This course provides closely supervised training in upper-level college English instruction and experience with professional research. Experience in the lecture, seminar discussion, examining, evaluation, conferences, directing undergraduate research, course development, use of secondary materials, publication procedure, and collation.

LIT 6167 STUDIES IN CONTEMPORARY LITERATURE (5)
PR: Graduate standing. Drama, poetry, fiction, and literary criticism; authors to be studied include Ionesco, Thomas, Miller, T. Williams, Beckett, Camus, and Burgess. May be retaken with different subject matter three times.

LIT 6208 STUDIES IN CONTINENTAL LITERATURE (5)
PR: Graduate standing. General areas include the Renaissance, the Enlightenment, the Novel in Europe, the Romantic Movement on the Continent, and Classical Comedy. May be retaken with different subject matter three times.

LIT 6934 SELECTED TOPICS IN ENGLISH STUDIES (1-10)
PR: Graduate standing. Current topics offered on a rotating basis include The Nature of Tragedy; The Nature of Comedy and Satire; The Nature of Romanticism and Classicism; and The Nature of Myth, Allegory, and Symbolism. Other topics will be added in accordance with student demand and instructor interest.

ENVIRONMENT

UNDERGRADUATE COURSE
IDS 3150 DIALOGUE IN ENVIRONMENTAL SURVIVAL (4)

FOREIGN LANGUAGES


General Foreign Languages

UNDERGRADUATE COURSES

FOL 3100 GENERAL FOREIGN LANGUAGE I (1-4)
A general purpose course that may be used for transfer of credit, credit by examination, and similar matters; may also be used for formal courses in less-commonly taught languages or in professional translation.

FOL 4200 GENERAL FOREIGN LANGUAGE II (1-4)
A general purpose course that may be used for transfer of credit, credit by examination, and similar matters; may also be used for formal courses in less-commonly taught languages or for workshops in professional interpreting.

FOL 4905 DIRECTED STUDY (1-4)
Departmental approval required.

GRADUATE COURSE

FOL 5906 DIRECTED STUDY (1-4)
PR: FOL 4200 or equivalent.

Arabic

UNDERGRADUATE COURSES

ARA 3110 MODERN ARABIC I (4)
An intensive study of the basic grammar, syntax, pronunciation, and development of reading and oral skills.

ARA 3111 MODERN ARABIC II (4)
PR: ARA 3110. A continuation of ARA 3110.

Classics

UNDERGRADUATE COURSES

Courses in Translation

CLT 3040 CLASSICAL WORD ROOTS IN SCIENCE (3)
A course in the Greek and Latin word stock used in all sciences (including medicine), technology, and law. Students' needs determine specific content of the course.

CLT 3290 CLASSICAL LITERATURE IN TRANSLATION: TRAGEDY (4)
Introduction to the masterworks of Greek and Roman tragedy, with analysis of plays by Aeschylus, Sophocles, Euripides, and Seneca.

CLT 3300 CLASSICAL LITERATURE IN TRANSLATION: COMEDY AND SATIRE (4)
Survey of the major works of Greek and Roman comedy and
sartre, including works by Aristophanes, Menander, Terence, Plautus, Petronius, Martial, Horace, and Juvenal.

CLT 3322 CLASSICAL LITERATURE IN TRANSLATION: EPIC AND LYRIC (4)
Study of epics and short lyric forms in Greco-Roman literature, including Homer and Vergil, poets from the ‘Greek Anthology,’ Catullus, Propertius, and Horace.

CLT 3370 CLASSICAL MYTHOLOGY (4)
Study of the more important myths of the Greeks and Romans as laid down in classical literature and of the impact that Classical mythology made on modern Western and, in particular, English literature.

For GREEK courses, see GRE and GRW prefixes. For LATIN courses, see LAT and LNW prefixes.

French

UNDERGRADUATE COURSES

Course in Translation

FRT 3110 HIGHLIGHTS OF FRENCH LITERATURE IN TRANSLATION (4)
A study in English of French life through writers since the revolution. Elective for students in all departments.

FRE 1060 FRENCH FOR READING (3)
Designed to provide a reading ability in French that will support research in other disciplines.

FRE 1100 BEGINNING FRENCH I (4)
The first course in the study of elementary French. Emphasis on the development of basic skills in comprehension, speaking, and reading.

FRE 1101 BEGINNING FRENCH II (4)
PR: FRE 1100 or equivalent. A continuation of FRE 1100.

FRE 1102 BEGINNING FRENCH III (4)
PR: FRE 1101 or equivalent. A continuation of FRE 1100 and FRE 1101.

FRE 2200 INTERMEDIATE FRENCH I (4)
PR: FRE 1102 or equivalent. A review of the basic structure of French. May be taken concurrently with FRE 2201.

FRE 2201 INTERMEDIATE FRENCH II (4)
PR: FRE 1102 or equivalent. Readings in French on the intermediate level. May be taken concurrently with FRE 2200.

FRE 2320 CONVERSATION I (4)
PR: FRE 1102. For development of basic conversational skills.

FRE 3420 COMPOSITION I (4)
A fundamental composition course for students who have completed FRE 2200 or FRE 2201.

FRE 3500 FRENCH CIVILIZATION (4)
Readings and discussion on the cultural history of France.

FRE 4241 CONVERSATION II (4)
PR: FRE 3240 or equivalent proficiency. Conversation practice with concentration on current idiomatic usage.

FRE 4421 COMPOSITION II (4)
Continuation of French composition. This course is designed to follow FRE 3420.

FRE 4905 DIRECTED STUDY (1-4)
Departmental approval required.

FRE 4930 SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

FRT 3110 See above—COURSE IN TRANSLATION

FRW 4300 INTRODUCTION TO FRENCH DRAMA (4)
PR: FRE 2201. Study of the development of drama. Will include medieval drama, Racine, Corneille, Moliere, Anouilh, Sartre, Beckett, Ionesco, and/or others, but specific content may vary from year to year.

GRADUATE COURSES

FLE 6829 GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

FRW 5564 CONTEMPORARY FRANCE (4)
PR: FRE 3500 or equivalent or graduate standing. An advanced course in French civilization and culture including a study of recent social, artistic and political trends as well as various current intellectual movements. Texts and discussions in French.

FRW 6908 INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

FRW 6910 DIRECTED RESEARCH (var.)
PR: GR. Master’s level. Repeatable. (S/U only.)

FRW 6934 SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

FRW 6971 THESIS: MASTER’S (var.)
Repeatable. (S/U only.)

FRW 5222 CLASSICAL PROSE AND POETRY (4)
PR: FRW 4100. Emphasis on Malherbe, La Fontaine, Boileau, Descartes, and Pascal.

FRW 5226 20TH CENTURY POETRY AND THEATRE (4)

FRW 5283 THE 20TH CENTURY NOVEL (4)
PR: FRW 4303. Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet.

FRW 5310 CLASSICAL DRAMA (4)
PR: FRW 4100. Corneille, Moliere, and Racine.

FRW 5410 LITERATURE OF THE MIDDLE AGES (4)
PR: FRW 4100. Major genres, including epic, Arthurian romances, drama, and lyric poetry. Reading in modern French translation.

FRW 5420 LITERATURE OF THE RENAISSANCE (4)

FRW 5440 18th CENTURY LITERATURE (4)
PR: FRW 4100. The classical tradition and the new currents of thought in the Age of Enlightenment.

FRW 5530 PRE-ROMANTICISM (4)

FRW 5535 ROMANTICISM (4)
PR: FRW 4300. A study of the romantic movement with emphasis on Lamartine, Vigny, Musset, and Hugo.

FRW 5550 REALISM (4)
PR: FRW 4300. A detailed study of realism with emphasis on Balzac and Flaubert.

FRW 5558 NATURALISM AND SYMBOLISM (4)
PR: FRW 4300. A detailed study of the naturalist school with emphasis on Zola, les Goncourt, Maupassant, and Daudet.
FRW 5934 SELECTED TOPICS (1-4)
PR: Upper-level or graduate standing. Study of an author, movement, or theme.

FRW 6319 SEMINAR ON CLASSICAL DRAMA (4)
PR: Graduate standing. A study of the works of Corneille, Racine, or Molière.

FRW 6405 OLD FRENCH (4)
PR: Graduate standing. An introduction to the Old French language and literature. Readings from representative texts. Required of all M.A. candidates.

FRW 6411 MEDIEVAL LITERATURE (4)
PR: Graduate standing. A study in depth of Old French literature of the Middle Ages.

FRW 6938 GRADUATE SEMINAR (4)
Topics vary. May be repeated.

German

UNDERGRADUATE COURSES

Course in Translation

GET 3111 HIGHLIGHTS OF GERMAN LITERATURE IN TRANSLATION (4)
An analysis in English based on translations of the most significant works of the middle ages, of Luther, Grimmelshausen, Lessing, Goethe, Kant, Hegel, Nietzsche, Mann, Heidegger, Kafka, Hesse, and contemporary writers of current interest. Elective for students in all departments.

GER 1060 GERMAN FOR READING
Designed to provide a reading ability in German that will support research in other disciplines.

GER 1100 BEGINNING GERMAN I (4)
The first course in the study of elementary German. Emphasis on the development of basic skills in comprehension, speaking, and reading.

GER 1101 BEGINNING GERMAN II (4)
PR: GER 1100 or equivalent. A continuation of GER 1100.

GER 1102 BEGINNING GERMAN III (4)
PR: GER 1101 or equivalent. Continuation of GER 1101.

GER 2200 INTERMEDIATE GERMAN I (4)
PR: GER 1102 or equivalent. A review of the basic structure of spoken and written German. May be taken concurrently with GER 2201.

GER 2201 INTERMEDIATE GERMAN II (4)
PR: GER 1102 or equivalent. Readings in German on the intermediate level. May be taken concurrently with GER 2200.

GER 3240 CONVERSATION I (4)
PR: GER 1102. For development of basic conversational skills.

GER 3240 COMPOSITION I (4)
A fundamental course for students who have completed GER 2200 or GER 2201.

GER 3500 GERMAN CIVILIZATION (4)
PR: GER 2200 or GER 2201. Readings in German on the cultural history of Germany.

GER 4241 CONVERSATION II (4)
Free conversation based on the current German idiom.

GER 4421 COMPOSITION II (4)
Practical training in modern German usage and differences of style.

GET 5111 See above—COURSE IN TRANSLATION

GEW 4101 SURVEY OF GERMAN LITERATURE II (4)
The romantic period, 19th and 20th centuries.

GEW 4900 DIRECTED STUDY (1-4)
Departmental approval required.

GEW 4930 SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

GRADUATE COURSES

GER 5845 HISTORY OF THE GERMAN LANGUAGE (4)
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 6908 INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

GEW 5485 20th CENTURY LITERATURE TO 1945 (4)
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-PRESENT (4)
Study of major trends in German literature since WWII with emphasis on Borchert, Frisch, Dürenmatt, Boll, Uwe Johnson, Grass, Aichinger, Eich, Enzensberger, Bachmann.

GEW 5515 THE ENLIGHTENMENT (4)
Selected dramas and critical writings by Lessing, Wieland, Kant.

GEW 5541 ROMANTICISM (4)
Jenaer circle and Heidelberger circle; the late romantic period, the writers between Classicism and Romanticism.

GEW 5551 REALISM (4)
Selected works by Grillparzer, Grabbe, Büchner, Hebbel, Heine, Immersam, Sütter, Keller, Meyer, Storm, Raabe, Hulshoff, and Mörike.

GEW 5600 GOETHE (4)

GEW 5603 FAUST I (4)
Sources, form, content, and literary significance of Urfaust and Faust I.

GEW 5610 SCHILLER (4)
Selected dramas, philosophical and aesthetical writings.

GEW 5934 SELECTED TOPICS (1-4)
PR: Upper-level or graduate standing. Study of an author, movement, or theme.

GEW 6400 MIDDLE HIGH GERMAN (4)
An introduction to the Middle High German language and the classical literature of that period. Readings from the epics of Hartmann von Aue, Wolfram von Eschenbach, Gottfried von Strassburg, and Minnesang (courty love poetry).

GEW 6604 FAUST II (4)
An analysis of Goethe's last work: mythology, literary significance and critical evaluation.

GEW 6915 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

GEW 6934 SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

GEW 6938 GRADUATE SEMINAR (4)
Topics vary. May be repeated.

Greek

UNDERGRADUATE COURSES

GRE 1100 BEGINNING CLASSICAL GREEK I (4)
An introductory course in classical Greek grammar with appropriate readings.
ITALIAN LITERATURE IN TRANSLATION
PR: ITA 4421
A continuation of Italian composition. This course is designed to follow ITA 3420.

ITALA 4930 SELECTED TOPICS
Study of an author, movement, or theme.

ITALA 4940--COURSES IN TRANSLATION
ITALA 3488 See above--COURSES IN TRANSLATION
ITWA 4100 SURVEY OF ITALIAN LITERATURE I
Origins of Italian Literature, together with general aspects of the literature of the Middle Ages and the Renaissance.

ITWA 4101 SURVEY OF ITALIAN LITERATURE II
The literature of the 17th through the 20th century, with special emphasis on the movements of the 19th and 20th centuries.

ITWA 4605 DANTE--DIVINE COMEDY I
The allegorical, poetic, religious, historical, mythological, and classical aspects of the Inferno are read and discussed.

ITWA 4905 DIRECTED STUDY
Departmental approval required.

GRADUATE COURSES
ITALA 6908 INDEPENDENT STUDY
(var.) Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

ITALA 6910 DIRECTED RESEARCH
(var.) PR: GR. Master's level. Repeatable. (S/U only.)

Latin

UNDERGRADUATE COURSES
LAT 1100 BEGINNING LATIN I
An introductory course in Latin grammar with appropriate readings.

LAT 1101 BEGINNING LATIN II
PR: LAT 1100 or equivalent. An introductory course in Latin grammar with appropriate readings.

LAT 1102 BEGINNING LATIN III
PR: LAT 1101 or equivalent. An introductory course in Latin grammar with appropriate readings.

LAT 2230 INTERMEDIATE LATIN I
PR: LAT 1102 or equivalent. Review of grammar; readings in Vergil, Ovid, and Martial.

LAT 2231 INTERMEDIATE LATIN II
PR: LAT 1102 or equivalent. Review of grammar; readings in Vergil, Ovid, and Martial.

LAT 2232 INTERMEDIATE LATIN III
PR: LAT 1102 or equivalent. Review of grammar; readings in Vergil, Ovid, and Martial.

LW 4311 ROMAN COMEDY I: PLAUTUS
PR: Basic knowledge of Latin. Readings of selected plays by Plautus; introduction to comedy—its theory and practice.

LW 4312 ROMAN COMEDY II: TERENCE
PR: Basic knowledge of Latin. Readings of selected plays by Terence.

LW 4322 ROMAN ELEGIC POETS II: PROPERTIUS AND TIBULLUS
PR: Basic knowledge of Latin. Readings in Propertius and Tibullus; further study of art and tradition in Roman lyric poetry.

LW 4361 ROMAN SATIRE I
PR: Basic knowledge of Latin. Readings in the Satyricon of Petronius: Introduction to the nature of satire.

LW 4362 ROMAN SATIRE II
PR: Basic knowledge of Latin. Readings in Seneca's Apocolocyntosis, the satires of Horace, and Juvenal. Introduction to the tradition and art of formal verse satire.
Russian

UNDERGRADUATE COURSES

Courses in Translation

RUT 3110 RUSSIAN CLASSICS IN TRANSLATION (4)  
Masterpieces of 19th century Russian literature in English. The major works of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, Tolstoy, and Chekhov. Elective for all students in all departments.

RUT 3111 20TH CENTURY RUSSIAN LITERATURE IN TRANSLATION (4)  
Masterpieces of 20th century Soviet literature in English. The major works of Bely, Olesha, Babel, Zamyatin, Bulgakov, Pasternak, and Solzhenitsyn. Elective for all students in all departments.

RUS 1100 BEGINNING RUSSIAN I (4)  
The first course in the study of elementary Russian. Emphasis on the development of basic skills in comprehension, speaking, and reading.

RUS 1101 BEGINNING RUSSIAN II (4)  
PR: RUS 1100 or equivalent. A continuation of RUS 1100.

RUS 1102 BEGINNING RUSSIAN III (4)  
PR: RUS 1101 or equivalent. A continuation of RUS 1101.

RUS 2200 INTERMEDIATE RUSSIAN (5)  

RUS 3400 CONVERSATION AND COMPOSITION I (4)  
PR: First year Russian or equivalent. Development of basic skills in conversation, composition, and reading.

RUS 4401 CONVERSATION AND COMPOSITION II (4)  
PR: Previous course in series or equivalent. Continuation of RUS 3400.

RUS 4900 SELECTED TOPICS (1-4)  
Study of an author, movement, or theme.

RUS 4905 DIRECTED STUDY (1-4)  
Departmental approval required.

RUT 3110 See above—COURSES IN TRANSLATION

RUT 3111 See above—COURSES IN TRANSLATION

RUW 4100 SURVEY OF RUSSIAN LITERATURE I (4)  
Russian literature from its origins with major emphasis on the first half of the 19th century.

RUW 4101 SURVEY OF RUSSIAN LITERATURE II (4)  
Late 19th and 20th century Russian literature to the present.

RUW 4614 TOLSTOY (4)  
Reading and discussion of the major works of Tolstoy.

RUW 4624 DOSTOEVSKY (4)  
Reading and discussion of the major works of Dostoevsky.

GRADUATE COURSE

RUS 6910 DIRECTED RESEARCH (var.)  
PR: GR. Master's level. Repeatable. (S/U only.)
### SPN 1100 BEGINNING SPANISH I
The first course in the study of elementary Spanish. Emphasis on the development of basic skills in comprehension, speaking, and reading. This course is also available on WUSF/TV Channel 16 by the O.U. Program.

### SPN 1101 BEGINNING SPANISH II
PR: SPN 1100 or equivalent. A continuation of SPN 1101.

### SPN 1102 BEGINNING SPANISH III
PR: SPN 1101 or equivalent. A continuation of SPN 1101.

### SPN 2200 INTERMEDIATE SPANISH I
PR: SPN 1102 or equivalent. A review of the basic structure of spoken and written Spanish. May be taken concurrently with SPN 2201.

### SPN 2201 INTERMEDIATE SPANISH II
PR: SPN 1102 or equivalent. Readings in Spanish on the intermediate level. May be taken concurrently with SPN 2200.

### SPN 3300 COMPOSITION I
A fundamental composition course for students who have completed SPN 2200 or SPN 2201.

### SPN 3470 OVERSEAS STUDY
PR: SPN 3300 and SPN 3240. An intensive study-travel program in a Spanish-speaking country. Prior departmental approval and early registration are required.

### SPN 3500 SPANISH CIVILIZATION
The culture and civilization of Spain.

### SPN 3520 SPANISH AMERICAN CIVILIZATION
Readings and discussions on the culture and civilization of Spanish America. For majors and non-majors.

### SPN 4241 CONVERSATION II
PR: SPN 3240 or equivalent. To improve fluency in spoken Spanish.

### SPN 4301 COMPOSITION II
PR: SPN 3300 or equivalent. A study of syntax, grammar, and stylistic devices of the Spanish language.

### SPT 3110 See above—COURSES IN TRANSLATION

### SPT 3131 See above—COURSES IN TRANSLATION

### SPW 3200 INTRODUCTION TO HISPANIC LITERATURE
PR: SPN 2201 or equivalent. The nature and significance of Hispanic literature in its various forms: fiction, drama, poetry; emphasis on the techniques of reading literature for critical analysis.

### SPW 4000 SURVEY OF SPANISH LITERATURE I
PR: SPN 2201 or equivalent. From the origins through the 17th century.

### SPW 4101 SURVEY OF SPANISH LITERATURE II
PR: SPN 2201 or equivalent. From the 18th century to the present.

### SPW 4130 SURVEY OF SPANISH-AMERICAN LITERATURE
PR: SPN 2201 or equivalent. An introduction to the study of Spanish-American literature from the Colonial period to the present. Emphasis on modern writers since Dario.

### SPW 4390 SELECTED TOPICS
Study of an author, movement, or theme.

### SPW 4900 DIRECTED STUDY
Departmental approval required.

### GRADUATE COURSES

#### SPN 5790 PHONOLOGY
PR: SPN 3300. A study of the Spanish sound system.

#### SPN 6845 HISTORY OF THE SPANISH LANGUAGE
Traces the development of Spanish from its Latin origins to the present.

#### SPN 6908 INDEPENDENT STUDY
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

#### SPN 6940 GRADUATE INSTRUCTION METHODS
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

#### SPW 5245 THE PICARESQUE NOVEL
Realistic prose-fiction of the Renaissance and Golden Age.

#### SPW 5313 GOLDEN AGE DRAMA
PR: SPW 4120. Lope de Vega, Alarcón, Tirso, Calderón, and others.

#### SPW 5482 POST CIVIL WAR LITERATURE
PR: SPW 4101. The drama and novel since 1936.

#### SPW 5535 ROMANTICISM
PR: SPW 4101. Poetry and drama of the first half of the 19th century.

#### SPW 5555 REALISM

#### SPW 5605 THE QUIJOTE
Cervantes' masterpiece Don Quijote de la Mancha.

#### SPW 5725 GENERATION OF 1898
PR: SPW 4101. The major figures of the period and their main followers.

#### SPW 5726 GENERATION OF 1927

#### SPW 5755 MEXICAN LITERATURE
PR: SPW 4130. Major writers of all genres. Emphasis on modern writers.

#### SPW 5765 LITERATURE OF ARGENTINA AND URUGUAY
PR: SPW 4130. Emphasis on the gaucheo theme and contemporary prose fiction.

#### SPW 5775 CARIBBEAN LITERATURE
PR: SPW 4130. Emphasis on contemporary Cuban and Puerto Rican literatures.

#### SPW 5934 SELECTED TOPICS
PR: Upper-level or graduate standing. Study of an author, movement, or theme.

#### SPW 6313 SEMINAR ON GOLDEN AGE DRAMA
A specialized study of a major Golden Age theme or dramatist.

#### SPW 6910 DIRECTED RESEARCH
PR: GR. Master's level. Repeatable. (S/U only.)

#### SPW 6934 SELECTED TOPICS
Study of an author, movement, or theme.

#### SPW 6936 GRADUATE SEMINAR
Topics vary. May be repeated.

#### SPW 6971 THESIS: MASTER'S
Repeateable. (S/U only.)

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**GEOGRAPHY**

UNDERGRADUATE COURSES

GEO 3000 WORLD REGIONAL GEOGRAPHY (5)
Comparative and analytical analysis of representative regions of the world with emphasis on cultural, political, economic, and physical diversity.

GEO 3002 GENERAL GEOGRAPHY (5)
Selected topics in regional and topical geography offered as survey courses. Open to all students.

GEO 4194 REGIONAL GEOGRAPHY (5)
PR: GEO 3013 recommended or CI. Variable title course to systematically study and compare special regions identified by the instructor.

GEO 4202 GEOGRAPHY OF ANGOLO-AMERICA (5)
PR: GEO 3013 recommended or CI.

GEO 4260 GEOGRAPHY OF THE SOUTHEAST UNITED STATES (5)
PR: GEO 3013 recommended or CI.

GEO 4270 GEOGRAPHY OF FLORIDA (5)
PR: GEO 3013 recommended or CI.

GEO 4300 GEOGRAPHY OF MIDDLE AMERICA (5)
PR: GEO 3013 recommended or CI.

GEO 4360 GEOGRAPHY OF THE GULF OF MEXICO (5)
PR: GEO 3013 recommended or CI.

GEO 4400 GEOGRAPHY OF LATIN AMERICA (5)
PR: GEO 3013 recommended or CI.

GEO 4410 GEOGRAPHY OF SOUTH AMERICA (5)
PR: GEO 3013 recommended or CI.

GEO 4500 GEOGRAPHY OF EUROPE (5)
PR: GEO 3013 recommended or CI.

GEO 4554 GEOGRAPHY OF THE USSR (5)
PR: GEO 3013 recommended or CI.

GEO 4600 GEOGRAPHY OF AFRICA (5)
PR: GEO 3013 recommended or CI.

GEO 4703 GEOGRAPHY OF ASIA (5)
PR: GEO 3013 recommended or CI.

GEO 4930 GEOGRAPHY OF THE AMERICAN HEARTLAND (5)
PR: GEO 3013 recommended or CI.

GEO 1930 GEOGRAPHY OF CURRENT EVENTS (4)
Application of basic geographic principles of the analysis of contemporary events in various parts of the world.

GEO 3013 SYSTEMATIC GEOGRAPHY (5)
Principles and concepts of the discipline; maps, earth-sun relations, weather, and climate.

GEO 3370 SYSTEMATIC GEOGRAPHY (5)
PR: GEO 3013 or CI. Landforms and conservation of resources. Latter part of course deals with man's use of the natural environment.

GEO 3402 HUMAN GEOGRAPHY (5)
PR: GEO 3013 or CI. Systematic treatment of man's activities on earth; population, settlement, agriculture, industry, trade, transportation, and political aspects are among those considered.

GEO 3901 ELEMENTS OF GEOGRAPHY (1)
An independent study program in the basic elements of physical and cultural geography. Topics include maps and map reading, history of geography, earth form, weather, climate, soils, water, plants and animals, landforms and minerals, conservation, political, economic, language and religion, settlement and population, and urban. Course is designed primarily for nonmajors. A student may enroll for a maximum of five hours (5 sections) during any quarter. (S/U only.)

GEO 3931C WEATHER AND MAN (5)
The inter-relationship between the atmospheric environment and man.

GEO 4040C MAP INTERPRETATION (5)
PR: GEO 3013 recommended or CI. Analysis and synthesis of various types of maps and map projections.

GEO 4100C CARTOGRAPHY (5)
PR: GEO 3013 recommended or CI. Cartographic techniques of map compilation and presentation, including generalization, symbolization, reproduction, and utilization.

GEO 4114C GEOGRAPHIC TECHNIQUES AND METHODOLOGY (5)
PR: GEO 3013 recommended or CI. Selected topics in various geographic techniques and methodologies and their application.

GEO 4124C AIR PHOTO INTERPRETATION (5)
PR: GEO 3013 recommended or CI. Use of air photos and other remote sensing devices in detecting, identifying, and analyzing objects on the earth's surface from the perspective of space.

GEO 4164C QUANTITATIVE METHODS (5)
PR: GEO 3013 recommended or CI. Use of statistical analysis in geographic research.

GEO 4200C PHYSICAL GEOGRAPHY (5)
PR: GEO 3013 recommended or CI. Man's interaction with the physical environment, including any one or a combination of the following topics: landforms, weather, climate, soils, vegetation, water.

GEO 4210 PHYSIOGRAPHY (5)
PR: GEO 3013 recommended or CI. Regional analysis of the physical complex of North America, including a detailed study of landforms and their distribution and processes of landform evolution.

GEO 4260 SOILS (5)
PR: GEO 3013 recommended or CI. An introduction to the study of soils with emphasis on soil morphology, conservation, classification, and world distribution of basic soil groups.

GEO 4280C HYDROLOGY (5)
PR: GEO 3013 recommended or CI. An in-depth study of the hydrologic cycle with emphasis on surface water components. Particular topics may include precipitation, evaporation, water budget, streamflow, and probability analysis.

GEO 4300 BIOGEOGRAPHY (5)
PR: GEO 3013 recommended or CI. Study of the distribution of animal life and vegetation with emphasis on their economic and geographic significance to man.

GEO 4340 MAN AND NATURAL HAZARDS (5)
PR: GEO 3013 recommended or CI. An examination of environmental hazards; their influence on man and man's attempt to overcome them. Some of the topics considered are hurricanes, tornadoes, earthquakes, tidal waves, fire, freezes, and droughts.

GEO 4372 CONSERVATION (5)
PR: GEO 3013 recommended or CI. The distribution, exploitation, and conservation of physical and human resources, ecology.

GEO 4390 WATER RESOURCES (5)
PR: GEO 3013 recommended or CI. A general overview of the hydrologic cycle and the impact of cultural development on its various components. May also include a survey of regional water problems.

GEO 4391 AMERICAN WATER RESOURCES (5)
PR: GEO 3013 recommended or CI.

GEO 4420 CULTURAL GEOGRAPHY (5)
PR: GEO 3013 recommended or CI. A study of the temporal-spatial relationship of culture and nature. Emphasis is placed on man's role in using and modifying the landscape and the effect of his global distribution on his economic activities, political development, and cultural differentiation.

GEO 4430 SETTLEMENT GEOGRAPHY (5)
PR: GEO 3013 recommended or CI. The interrelationships of human settlement types and their natural habitats; site, situation, form, and function are examined. Emphasis is on rural settlement, but urbanization is considered.

GEO 4440 POPULATION GEOGRAPHY (5)
PR: GEO 3013 recommended or CI. An analysis of contemporary patterns in world and regional distributions of people and
geographical factors underlying these patterns and their changes.

**GEO 4460 HISTORICAL GEOGRAPHY**  
PR: GEO 3013 recommended or CI. Survey of evolving landscapes through time; analysis is made by means of systematic and regional methods in order to re-construct the changing culture-nature equation.

**GEO 4470 POLITICAL GEOGRAPHY**  
PR: GEO 3013 recommended or CI. The geographic factors underlying political decisions, those which influence the outcome of political decisions, and the geographic consequences of political decisions and actions. Geopolitical relationships are examined at the local, state, national and supranational levels.

**GEO 4500 ECONOMIC GEOGRAPHY**  
PR: GEO 3013 recommended or CI. Location factors and principles, utilizing theoretical and empirical studies. Focus upon the spatial organization of economic production, consumption, and exchange systems.

**GEO 4510 MINERALS**  
PR: GEO 3013 recommended or CI. Analysis of the location, utilization, and economic significance of various selected minerals used by man and the resulting modification of the natural landscape.

**GEO 4530 GEOGRAPHY OF ENERGY**  
PR: GEO 3013 recommended or CI. An examination of the primary sources of energy from the standpoint of systematic and regional geography. Consideration is given to the resource base, production, and consumption. Special attention is given to OPEC and environmental problems.

**GEO 4580 MANUFACTURING GEOGRAPHY**  
PR: GEO 3013 recommended or CI. Theories in industrial location; locational analysis of selected manufacturing industries; examined are zones of production-fabrication-consumption; regional treatment of selected manufacturing zones.

**GEO 4602 URBAN GEOGRAPHY**  
PR: GEO 3013 recommended or CI. Analysis of the spatial properties or urban areas. Emphasis is placed on factors of urban growth, location, spacing, and size; examined are the geographic factors supporting urban development, site, situation, the internal structure, the hinterland.

**GEO 4700 TRANSPORTATION GEOGRAPHY**  
PR: GEO 3013 recommended or CI. Reciprocal relations between freight and passenger transportation and land use organization in terms of site requirements, traffic generation characteristics, circulation problem zones of production-fabrication-consumption.

**GEO 4800 AGRICULTURAL GEOGRAPHY**  
PR: GEO 3013 recommended or CI. Factors influencing the spatial organization and patterns of agricultural land use, agricultural enterprises and systems, and regional analysis of agriculture; attention is given to the origin and diffusion of domestic plants.

**GEO 4890 COASTAL ZONE MANAGEMENT**  
PR: GEO 3013 recommended or CI. Identification and analysis of various physical, environmental, and cultural elements with emphasis on the impact of economic activities on these elements.

**GEO 4900 DIRECTED READING**  
PR: 30 hours in geography and CC prior to registration. May be repeated.

**GEO 4910 INDIVIDUAL RESEARCH**  
PR: 30 hours in geography and CC prior to registration. May be repeated.

**MET 4002 CLIMATOLOGY**  
PR: GEO 3013 recommended or CI. An introductory course which includes an examination of climatic classification systems, problem climates, and the application of climate to selected topics such as world vegetation patterns, agriculture, housing, and health.

**MET 4010C METEOROLOGY**  
PR: GEO 3013 recommended or CI. An introduction to the basic study of the components of the earth's atmosphere and the interrelated processes involved. Weather elements included are temperature, atmospheric moisture, pressure, winds, clouds, precipitation, and storms. Basic weather forecasting and analysis.

**URP 4052 URBAN AND REGIONAL PLANNING**  
PR: GEO 3013 recommended or CI. The geographic foundations of the modern city, metropolitan development, and the trend toward megalopolis. Examined are the political problems of conflicting jurisdictions at the local, county, state, national, and international levels.

### GRADUATE COURSES

**GEO 6195 SEMINAR IN ADVANCED REGIONAL GEOGRAPHY**  
PR: Graduate standing in geography. Analytic study of a selected region of the world. May be repeated once for credit, but region may not be repeated.

**GEO 5065 GEOGRAPHIC LITERATURE AND HISTORY**  
PR: Senior or graduate standing in geography, or CI. 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.

**GEO 5105C METHODOLOGY II: CARTOGRAPHIC**  
PR: Senior or graduate standing in geography, GEO 4100C (Cartography), or CI. Application of various techniques for presenting graphic illustrations as research tools.

**GEO 5166C METHODOLOGY I: QUANTITATIVE**  
PR: Senior or graduate standing in geography, and a course in statistics, or CI. The application of quantitative techniques to geographic problems; factor, sensitivity, and spatial analysis.

**GEO 5945C METHODOLOGY III: FIELD WORK**  
PR: Senior or graduate standing in geography. Data collection in a field situation, including observation, classification, interpretation, and presentation of the data.

**GEO 6119 SEMINAR IN ADVANCED TECHNIQUES & METHODOLOGY**  
PR: Graduate standing in geography. Analytic study of a selected geographic technique (such as remote sensing, graphics, photo interpretation, or computer applications) or an investigation into an aspect of methodology. May be repeated once for credit but topic may not be repeated.

**GEO 6209C SEMINAR IN ADVANCED PHYSICAL GEOGRAPHY**  
PR: Graduate standing in geography. Analytic study of a problem selected from one or more aspects of the atmosphere, biosphere, hydrosphere, or lithosphere. May be repeated once for credit, but topic may not be repeated.

**GEO 6428 SEMINAR IN ADVANCED CULTURAL GEOGRAPHY**  
PR: Graduate standing in geography. Analytic study of a problem selected from one or more aspects of the cultural landscape (urban, political, economic, population, settlement). May be repeated once for credit.

**GEO 6908 INDEPENDENT STUDY**  
(var.) Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

**GEO 6918 DIRECTED RESEARCH**  
(var.) PR: GR. Master's level. Repeatable. (S/U only.)

**GEO 6919 GRADUATE RESEARCH METHODS**  
(1-5) Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

**GEO 6945 METHODOLOGY IV: ACADEMIC**  
PR: Graduate standing in geography. Current trends in college geography, with the emphasis on the junior college program. Not available to thesis students.
GEOLOGY

GEO 6947 DIRECTED TEACHING (1-9)

GEO 6948 GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

GEO 6971 THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

UNDERGRADUATE COURSES

GLY 2000 INTRODUCTION TO GEOLOGY (4)
An introduction to the materials, processes, and history of the earth. Students may elect to enroll in GLY 2000L concurrently. No credit for geology majors or students with credit in GLY 3006.

GLY 2000L BASIC GEOLOGY LABORATORY (1)
Laboratory examination of mineral and rock specimens, topographic and geologic maps, aerial photographs, and fossils. May not be repeated for credit. No credit for geology majors.

GLY 2016 GEOLOGY I: EARTH MATERIALS (4)
Study of minerals and rocks that comprise the earth's crust. Basic introduction to the origin and classification of earth materials. Fundamentals of the rock cycle. Designed for science majors. Lec.-lab.

GLY 2017 GEOLOGY II: EARTH PROCESSES (4)
Study of surface and subsurface processes of the earth including weathering transportation and accumulation of sediment, earthquakes, and other crustal movement, and movements of fluids. Emphasis on streams, coasts, glacial environments, and aeolian environments, and the resulting landforms. Designed for science majors. Lec.-lab.

GLY 2100 GEOLOGY III: EARTH HISTORY (4)
Study of the physical and biological history of the earth including evolution of the major groups of organisms, continental drift, and interpretation of ancient environments. Designed for science majors. Lec.-lab.

GLY 2850 ENVIRONMENTAL GEOLOGY (4)
A first course in geology emphasizing environmental aspects of the earth's crust such as earthquakes, depletion of the earth's resources, water supply problems, and geologic land use and planning. Students may enroll in GLY 2000L concurrently. No credit for geology majors.

GLY 3005 ROCKS, MINERALS, AND GEMS (4)
A general course in the occurrence, classification, and economics of earth materials. Designed for the nonscience student or rock collector who is interested in something beyond a basic introductory course. Although no prerequisites are necessary, it is recommended that either GLY 2000, GLY 2850, or GLY 3006 be taken prior to enrollment in GLY 3005. No credit for geology majors.

GLY 3006 GEOLOGY OF OUR NATION'S PARKS (4)
Representative parks used to illustrate current concepts in geology. Students may enroll in GLY 2000L concurrently. For the non-science student. No credit for geology majors or students with credit in GLY 2000.

GLY 3400 STRUCTURAL GEOLOGY (4)
PR: 12 hours of geology, MAC 1114 or equivalent or CI. Study of the origin and development of structural features of the earth's crust. Applications of principles of geology, physics, and mathematics to understanding relationships of strata and interpreting structural features. Lec.-lab.

GLY 3610 PRINCIPLES OF INVERTEBRATE PALEONTOLOGY (5)
PR: GLY 2100 or CI. Emphasis on morphology and habits of fossils invertebrate groups as they evolved through geologic time. Comparisons with modern examples or similar organisms. Stratigraphic distribution of major groups. Lec.-lab.

GLY 3650 LIFE OF THE GEOLOGIC PAST (4)
General course in development of organisms through geologic time including invertebrates, vertebrates, and plants. Designed for non-science majors interested in fossils, their origins, and scientific value in the rock record. Although no prerequisite is necessary, it is recommended that either GLY 2000, GLY 2850, or GLY 3006 be taken prior to enrollment in GLY 3650. No credit for geology majors.

GLY 3820 INTRODUCTION TO HYDROGEOLOGY (5)
PR: Eight hours of geology, MAC 1114 or equivalent, or CI. Occurrence, circulation and distribution of subsurface water, its chemical and physical properties, relation to the geologic environment, exploration and development. Lec.-field lab.

GLY 4040 CONCEPTS IN EARTH SCIENCE (5)
Study of earth materials, including a selected study of its materials, processes, climate, oceans, soils, and history. Lec.-dis.-field trips.

GLY 4200 MINERALOGY (4)
PR: Crystal Chemistry and Crystallography or CI. Properties, origin, and occurrence of geologically and economically important minerals. Laboratory practice in the identification of common minerals on the basis of their physical properties and simple chemical tests. Lec.-lab.

GLY 4210 CRYSTAL CHEMISTRY AND CRYSTALLOGRAPHY (4)
PR: Geology I: Earth's Materials, one year of chemistry and College Trigonometry or equivalent or CI. Principles of crystal chemistry including chemical bonding and coordination, and the fundamentals of crystal structures. Crystal symmetry and morphology and their recognition. Particular emphasis is placed on mineralogically important examples. Lec.-lab.

GLY 4220 OPTICAL MINERALOGY (4)
PR: Mineralogy or CI. Theory and use of polarized light microscopy as a means of mineral identification. Special emphasis is placed on the identification of rock forming minerals in thin section. Lec.-lab.

GLY 4511 PRINCIPLES OF STRATIGRAPHY (4)
PR: GLY 4550. Emphasis on classical principles of litho-and biostratigraphy, stratigraphic nomenclature, development of stratigraphic philosophy, and paleogeographic reconstruction of sedimentary basins. Lec.-lab.-field trips.

GLY 4550 DEPOSITIONAL SYSTEMS (4)
PR: GLY 2017, GLY 2100 or equivalent. Study of modern sedimentary environments and their relationships to one another in order to understand environments preserved in the rock record. Physical, chemical, and biological aspects of terrestrial, transitional and marine sedimentary environments will be examined in light of their eventual preservation in rocks.

GLY 4555 SEDIMENTOLOGY (4)
PR: GLY 4220, GLY 4550 or CI. Analysis of sedimentary rocks and sedimentary structures as related to their environments of deposition. Textural and mineralogical study of sediments and statistical applications to sediment analysis. Lec.-lab.-field trips.

GLY 4700 GEOMORPHOLOGY (4)
PR: Senior or advanced junior standing and CI. Origin, evolution and distribution of landforms.

GLY 4710 GEOLOGY OF SOILS (4)
PR: Junior standing. Soil genesis, morphology, and mapping. Soil classification, world soil distribution. Applications of soil
science to geology, engineering, land use planning, and anthro-

Gly 4730 Marine Geology (4)
PR: 20 hours of geology or Cl. General survey of the geology of the ocean floor from beaches to oceanic trenches including sediments, processes, tectonics and history.

Gly 4750 Field Methods (4)
PR: 20 hours of geology courses or Cl. Fundamentals of geology in the field; compass and plane table mapping, mapping on aerial photos, reconnaissance surveys, interpretation of geologic structure. Lec.-lab.-field trips.

Gly 4816 Economic Mineral Deposits (4)
PR: 20 hours of geology or Cl. Principles involved in the origin, occurrence, recovery, and use of mineral resources. Lec.-lab.-field trips.

Gly 4821 Hydrogeology and Human Affairs (4)
PR: Open to all junior and senior level students. Geologic analyses of the present critical and urgent problems of water resources, pollution control, water supply, flood control, and underground waste disposal as they relate to economic, legal, and other social aspects of modern society. Field trips. No credit for geology majors.

Gly 4905 Independent Study (1-4)
PR: Cl. Specialized independent study determined by the students' needs and interests. May be repeated. (S/U only.)

Gly 4915 Undergraduate Research (1-5)
PR: Junior or advanced junior standing and written permission of department prior to registration. Individual experimental investigations with faculty supervision. (S/U only.)

Gly 4920 Geology Colloquium (1)
PR: Senior standing in Geology. Weekly topical lectures by faculty, graduate students and invited speakers. Required of all senior geology majors, to be repeated for a total of 3 credit hours. (S/U only.)

Gly 4930 Selected Topics in Geology (1-6)
Each topic is a course under the direction of a faculty member with the content depending on the interests of the students and faculty involved. All areas of geology included. Departmental permission required prior to registration.

Ge 3001 Introduction to Oceanography (3)
Topics in biological, chemical, geological, and physical oceanography presented in lectures by a number of specialists in these fields. (Also listed under Marine Science).

Graduate Courses

Gly 5241 General Geochmistry (4)
PR: One year college chemistry, GLY 4200 or Cl. Age, formation and evolution of the earth with application of basic chemical concepts and processes that govern the distribution of elements in geologic environments.

Gly 5245 Analytical Techniques in Geology (5)
PR: One year college chemistry, GLY 4220 or Cl. Use and application of modern analytical methods including X-ray, atomic absorption, and other geochemical techniques. Interpretation and statistical analysis of data acquired. Lec.-lab.

Gly 5310 Igneous and Metamorphic Petrology (4)
PR: GLY 4220. Systematic study of igneous and metamorphic rocks and complexes, including origin, composition, and classification. Use of the polarizing microscope for thin section analysis will be emphasized, and other modern methods of study will be employed.

Gly 5341 Petrology of Chemical Rocks (4)
PR: GLY 3610, GLY 4220 or Cl. Origin, mineralogy, and petrology of chemical and organic sedimentary deposits including evaporites, carbonates, cherts, oil and gas, coal and sedimentary iron ores. Lec.-lab.-field trips.

Gly 5450 Principles of Applied Geophysics (4)
PR: Senior or advanced junior standing, one year of Physics or Cl. Elementary treatment of gravimetric, magnetic, electric, and seismic geophysical techniques as applied to site investigations and mineral deposits. Lec.-lab.-field trips.

Gly 5615 Advanced Stratigraphic Paleontology (5)
PR: GLY 3610, GLY 4550 or Cl. Morphology, geologic distribution, and stratigraphic ranges of important invertebrate guide fossils. Lec.-lab.-field trips.

Gly 5825 Advanced Hydrogeology (4)
PR: GLY 3820, MAC 2244 or MAC 3413, or Cl. 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.

Gly 5932 Selected Topics in Geology (1-5)
PR: Senior or advanced junior standing and CC. 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.

Gly 6246 Chemical Equilibria in the Earth (4)
PR: GLY 5241 or Cl. Application of basic solution geochemistry and equilibria concepts to geologic problems with emphasis on geochemical reactions at low temperatures and pressures.

Gly 6250 Clay Mineralogy (4)
PR: Graduate standing in geology or Cl. Composition, structures, origin, and diagenesis of clay minerals. Identification of clay minerals by X-ray diffraction techniques.

Gly 6290 Sedimentary Geochemistry (4)
PR: GLY 5241 or Cl. Fundamentals of aqueous geochemistry in relation to chemical and biochemical precipitation of sedimentary materials. Geochemistry of fluids with emphasis on diagenesis.

Gly 6349 Sandstone Petrography (4)
PR: GLY 4220, GLY 4555 or Cl. Origin and environmental interpretation of sandstones including fine grained terrigenous sediments. Emphasis on thin-section study of sandstones as means of interpreting ancient depositional and diagenetic environments. Lec.-lab.

Gly 6551 Carbonate Petrography (4)
PR: GLY 4220, GLY 5341 or equivalent or Cl. Origin and environmental interpretation of carbonate rocks with emphasis on thin section study as means of interpreting ancient depositional and diagenetic environments. Lec.-lab.

Gly 6575 Coastal Sedimentation (4)
PR: GLY 4555 or equivalent. 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.

Gly 6660 Marine Paleoecology (4)
PR: GLY 3610, GLY 4555 or Cl. 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 the fossil record. Lec.-field trips.

Gly 6735 Selected Topics in Geology (1-6)
PR: Cl. May be repeated for credit.

Gly 6826 Development of Ground Water Resources (4)
PR: GLY 5825 or Cl. Emphasis on ground water exploration, evaluation, and exploitation. Study of well hydraulics, geophysical and geochemical exploration and evaluation, hydrogeologic systems analysis. Lec.-lab.-field trip.

Gly 6905 Independent Study (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

Gly 6910 Directed Research (var.)
PR: GR. Master's level. Repeatable. (S/U only.)
HISTORY 235

HISTORY


UNDERGRADUATE COURSES

AFH 3100 INTRODUCTION TO AFRICAN HISTORY (4)
An outline survey of pre-colonial African history including a prefatory introduction to the use of primary sources (such as archaeology, oral tradition, cultural anthropology, comparative linguistics, documents) in reconstructing the African past. (Also offered under Afro-American Studies.)

AFH 3200 AFRICAN HISTORY SINCE 1850 (4)
Survey of the colonial and post-colonial history of Africa. Emphasis on the impact of European and other alien influences on the continent, emergence of independent African states, and post-independence problems of nation building and economic development. (Also offered under Afro-American Studies.)

AMH 2010, 2020 AMERICAN HISTORY I, II (4,4)
A history of the United States with attention given to relevant developments in the Western Hemisphere, AMH 2010; Europe­an origins to 1877; AMH 2020: 1877 to present.

AMH 3110 AMERICAN COLONIAL HISTORY TO 1750 (4)
A study of European interest and involvement in America from the Age of Reconnaissance to 1750. Attention is given to im­perial conflicts, religious development, economic growth, and the development of distinctive American views.

AMH 3130 THE AMERICAN REVOLUTIONARY ERA (4)
A study of American development from 1750 to 1789 with em­phasis on institutional development and the establishment of the American national system as an outgrowth of revolution and counter-revolution.

AMH 3140 THE AGE OF JEFFERSON (4)
A study of the formation of the American national state, the development of political parties, continental expansion and reform movements. Covers the period from 1783 to 1828.

AMH 3160 THE AGE OF JACKSON (4)
A study of the formation of the American national state, the development of political parties, continental expansion and reform movements. Focuses upon the years from 1828 to the Com­promise of 1850.

AMH 3170 THE CIVIL WAR AND RECONSTRUCTION (4)
The events and personalities of the 1850's; the Civil War and Reconstruction including politics, slavery, reform, and expansion are examined in addition to the military conflict.

AMH 3201 THE UNITED STATES, 1877-1914 (4)
A study of the transition of America from the era of Re­construction to WWI focusing on industrialization, expansion, and urbanization.

AMH 3231 THE UNITED STATES, 1914-1945 (4)
A comprehensive study of the United States from the beginning of World War I to the end of World War II. Consideration of so­cial and intellectual, political, economic, diplomatic develop­ments for the presidency of Woodrow Wilson through the presi­dency of Franklin Roosevelt.

AMH 3270 THE UNITED STATES SINCE 1945 (4)
A study of American society from the end of World War II to the present. Developments in the political, economic, social, and intellectual spheres will be studied and related to the role of the United States in international politics.

AMH 3402 THE ORIGINS AND GROWTH OF THE AMERICAN SOUTH (4)
A chronological study of the South in its relations with the rest of the United States focusing on the origins and development of Southern institutions and thought.

AMH 3403 THE SOUTH AND THE NATION (4)
The growth of the "New South," and the increasing integration and assimilation of the South in the nation.

AMH 3421 EARLY FLORIDA HISTORY (4)
A history of colonial Florida under the Spanish and English. Florida as an area of discovery, colonization, and imperial conflict; the emergence of Florida within its regional setting.

AMH 3423 MODERN FLORIDA HISTORY (4)
Florida from its acquisition by the United States in 1821 to the present time. Stresses political, economic, and cultural growth and the affect of the environment.

AMH 3460 AMERICAN URBAN HISTORY (4)
A study of cities in American history from the colonial period to the present. The course focuses on the process of urbanization and the changing quality of urban life.

AMH 3500 AMERICAN LABOR HISTORY (4)
A study of American workers with emphasis on the period from the 1860's to the present. The course examines the impact of in­dustrial change of workers and their responses to new envi­ronments as expressed in strikes, unions, and political action.

AMH 3510 AMERICAN FOREIGN RELATIONS TO 1898 (4)
The development of American Foreign Relations in the Agricul­tural era.

AMH 3511 AMERICAN FOREIGN RELATIONS SINCE 1898 (4)
A history of American Foreign Relations in the Industrial era.

AMH 3530 IMMIGRATION HISTORY (4)
A study of the composition and character of the "American" people with emphasis on the period from the 1840's to the 1920's. This course examines the diverse old-world backgrounds of the thirty-five million immigrants and their responses to new world social, political and economic conditions.

AMH 3540 UNITED STATES MILITARY HISTORY (4)
A study of United States military history from the American co­lonial period to the present. The United States military experi­ence is studied within the context of related international and domestic developments and integrated with European antecedents.

AMH 3800 HISTORY OF CANADA (4)
A study of the major themes in the political and social develop­ment of Canada, with particular emphasis on the origins and development of French-Canadian nationalism, continentalism, and dominion-provincial relations.
AMH 4300 SOCIAL AND INTELLECTUAL HISTORY OF THE U.S. (4)
A study of the major social and intellectual developments in American history.

ASH 3403 ANCIENT AND IMPERIAL CHINA (4)
A survey of Chinese history from the earliest agrarian societal forms through the height of Chinese civilization in the Ming Dynasty (ca. 15th-16th Centuries).

ASH 3404 MODERN CHINA (4)
A survey of the 19th and 20th Centuries up to the creation of the Chinese People's Republic in 1949.

EIH 2101, 2102 ANCIENT HISTORY I, II (4,4)
A survey study of the ancient civilization. EIH 2101 deals with Near Eastern and Greek history to the beginning of the career of Alexander the Great; EIH 2102 treats the career of Alexander, the Hellenistic World, and Rome to the death of Constantine. Attention is drawn to the correlative work in CLA 3000, Ancient Civilizations.

EIH 2121, 2122 MEDIEVAL HISTORY I, II (4,4)
A thematic survey of the Middle Ages. EIH 2121 deals with the nascent, Christian civilization of Europe, circa 300-1050 A.D.; EIH 2122 treats the mature medieval civilization of Europe, circa 1050-1500.

EIH 2200, 2201 MODERN EUROPEAN HISTORY I, II (4,4)
A thematic survey of Europe in the modern age. EIH 2200 treats the period from the Renaissance to the French Revolution; EIH 2201, from the French Revolution to the present.

EIH 3140 HISTORY OF THE RENAISSANCE (4)
A social and cultural view of Europe during the Renaissance. Specific attention will be given to the artistic and philosophical developments in relation to the social, economic, and political situation.

EIH 3145 THE REFORMATION AND THE WARS OF RELIGION (4)
A social and cultural approach to European history from Luther to the Thirty Years War, (1517-1648). Religious and political conflicts and solutions will be examined in light of the cultural, social, and economic characteristics of the period.

EIH 3180 MEDIEVAL SOCIETY (4)
An inquiry into the daily life and attitudes of the medieval peasant and townsman, and the agrarian-urban economy and society which affected their lives.

EIH 3189 MEDIEVAL POLITICS (4)
An inquiry into the nature, distribution, and use of political power in the middle ages. Studies of the Ecclesiastical and secular nobility, their political actions, attitudes, and lives.

EIH 3204 HISTORY OF THE ENLIGHTENMENT (4)
The history of Europe from the Peace of Westphalia (1648) to the outbreak of the French Revolution.

EIH 3205 HISTORY OF NINETEENTH CENTURY EUROPE (4)
A comparative study of major economic, political and social-cultural developments in 19th Century Europe.

EIH 3206 HISTORY OF TWENTIETH CENTURY EUROPE (4)
A comparative study of major economic, political, and social-cultural developments in 20th century Europe.

EIH 3302 BYZANTINE HISTORY TO 867 (4)
A thematic treatment of the history of Byzantium from 324 A.D. to 867. Course explores social, economic, religious, and political developments together with consideration of literature, learning, and the arts.

EIH 3303 IMPERIAL BYZANTIUM (4)
A study of the Byzantine Empire during the period 867-1453. Emphasizing causes for its decline and fall.

EIH 3401 HELLENIC GREECE (4)
A study of Greece in the Ancient period focusing on the Pre-Hellenic and Hellenic periods to the death of Philip of Macedon.

EIH 3402 HELLENISTIC GREECE (4)
A study of the career of Alexander The Great and of major developments in the Hellenistic period.

EIH 3412 ROMAN REPUBLIC (4)
A study of the Roman Republic in the period from its establishment in 509 B.C. to the death of Julius Caesar in 44 B.C. A prelude deals with Roman origins in the Regal period.

EIH 3413 ROMAN EMPIRE (4)
A study of the Roman Empire in the period from the death of Julius Caesar in 44 B.C. to the death of Marcus Aurelius, A.D. 180.

EIH 3431 ITALIAN HISTORY 1861 TO PRESENT (4)
A study of the major developments in Italian History from 1861 to the present.

EIH 3442 FRENCH HISTORY TO 1789 (4)
A study of major developments in French History from the Renaissance to the French Revolution.

EIH 3451 FRENCH HISTORY 1789 TO PRESENT (4)
A study of major developments in French History from the French Revolution to the present.

EIH 3461 GERMAN HISTORY TO 1870 (4)
A study of major developments in German History from the Reformation to 1870.

EIH 3462 GERMAN HISTORY 1870 TO PRESENT (4)
A study of major developments in German History from 1870 to the present.

EIH 3501 BRITISH HISTORY TO 1715 (4)
A study of major developments in British History from the 15th century to 1715.

EIH 3502 BRITISH HISTORY 1715 TO PRESENT (4)
A study of major historical developments in British History from 1715 to the present.

EIH 3530 BRITISH EMPIRE (4)
British Empire and Commonwealth. A study of the first and second British Colonial Empires, the emergence of the British Commonwealth into the Commonwealth of Nations.

EIH 3571 RUSSIAN HISTORY TO 1855 (4)
A study of major developments in Russian History from pre-Kievan times to 1855.

EIH 3572 RUSSIAN HISTORY 1855 TO PRESENT (4)
A study of the major developments in Russian History from 1855 to the present.

EIH 4600 SOCIAL AND INTELLECTUAL HISTORY OF THE ANCIENT WORLD (4)
A study of the major social and intellectual developments in the Ancient World.

EIH 4601 SOCIAL AND INTELLECTUAL HISTORY OF MEDIEVAL EUROPE (4)
A study of the culture and major intellectual developments of the Medieval World.

EIH 4602 SOCIAL AND INTELLECTUAL HISTORY OF MODERN EUROPE (4)
A study of the major social & intellectual developments in Modern Europe.

HIS 3930 SPECIAL TOPICS (4)
This course is designed to emphasize a selected historical problem or issue that is meaningful and challenging to the student. A variety of instructional approaches will be taken to the material. Topics will be changed each quarter.

HIS 4070 RESEARCH IN HISTORY (4)
PR: Cl. Introduction to the methods of historical research and writing, bibliography, and directed research in special topics designed to meet the particular needs and interests of individual students. Should be taken in the term immediately following enrollment in HIS 4936.

HIS 4152 THEORY OF HISTORY (4)
PR: To be taken during the senior year. An investigation of the
philosophical problems of history, with emphasis on the evolution of the discipline.

HIS 4153 ORAL HISTORY
A study of the craft and technique of Oral History. The course focuses on a number of historical studies which have utilized interviews as an instrument for historical research. Students will be expected to complete original field research, preferably in the Tampa area.

HIS 4461 SCIENCE AND CIVILIZATION
A thematic study of the interrelationship of science and society in modern history, science as a social institution in history.

HIS 4900 DIRECTED READING
PR: CI. Arrangement with instructor prior to registration. Readings in special topics.

HIS 4936 PRO-SEMINAR IN HISTORY
PR: CI. Advanced topics in the fields emphasizing readings, discussion, research, and writing. One pre-seminar is required of all history majors. Non-majors may enroll with the consent of the instructor. Topic vary within each field.

LAH 3021 SPAIN, PORTUGAL AND THE IBERIAN EMPIRES
A study of the peoples of the Iberian peninsula from the late medieval period to 1898 with emphasis on the Spanish Portuguese empires in the Western Hemisphere.

LAH 3022 MODERN LATIN AMERICA
A study of the emergence of the Latin American state. Emphasis is on Latin America since the wars of emancipation with special attention to the Third World character of the region, including independence, underdevelopment, imperialism, and revolution.

LAH 3430 MEXICO
A thematic study of Mexican history from Pre-Columbian cultures to the 20th Century, with special emphasis on colonial society, the emergence and development of the Mexican state and the Mexican Revolution.

LAH 3470 CARIBBEAN HISTORY
A thematic study of major political and socio-economic developments in the Caribbean area.

LAH 3480 HISTORY OF CUBA
An examination of Cuban history from Columbus to Castro. Emphasis on a thematic study of Cuba, including conquest and colonization, the 19th century struggles for independence, the political-economy of the Republic, and the revolutionary processes of the 20th century.

LAH 3600 HISTORY OF BRAZIL
A study of the social, economic, military, and political development of Portuguese Brazil in an otherwise Spanish American continent. Emphasis is on the 19th and 20th centuries.

LAH 4730 SOCIAL AND INTELLECTUAL HISTORY OF LATIN AMERICA
A study of the origins and development of major social and intellectual trends affecting the histories of the Latin American people.

WOH 4270 REVOLUTIONS IN THE MODERN WORLD
A comparative study of the major revolutions in world history and a study of the relationship between revolution and other forms of social change.

GRADUATE COURSES

HIS 6112 ANALYSIS OF HISTORICAL KNOWLEDGE
PR: Graduate Standing. A study of History as a form of knowledge with emphasis on explanatory devices and models of the discipline and the application of Social Science theory to the problems of Historical thought.

HIS 6113 THEORY AND INTERPRETATION
A systematic examination and evaluation of various schools of historical interpretation.

HIS 6904 DIRECTED RESEARCH
PR: GR. Master's level. Repeatable. (S/U only.)

HIS 6908 INDEPENDENT STUDY
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

HIS 6920 COLLOQUIUM IN HISTORY
Reading and discussion of selected topics within the fields. Subject and scope to be determined by the instructor. May be repeated for credit.

HIS 6939 SEMINAR IN HISTORY
Research in selected problems within the fields. Subject and scope to be determined by the instructor. May be repeated for credit. The master's candidate is required to satisfactorily complete work in at least one graduate seminar to fulfill the requirement for the Master's degree in History.

HIS 6971 THESIS: MASTER'S
Repeatable. (S/U only.)

HONORS PROGRAM

Director: M. V. Angrosino

UNDERGRADUATE COURSES

IDS 3901 HONORS PROGRAM READING SEMINAR
PR: Admission to University Honors Program. Reading seminar in which students read one major work a week and participate in discussions led by a specialist in a chosen field (topics vary). Second of a two-part sequence.

IDS 3931 HONORS PROGRAM SELECTED TOPICS
PR: Admission to University Honors Program. Seminar focuses on one major problem central to a selected discipline outside a student's major. The purpose of the seminar is to demonstrate in some depth how another discipline defines, attacks, and resolves its major problem.

IDS 4938 HONORS PROGRAM SENIOR SEMINAR
PR: Admission to University Honors Program. This seminar serves to integrate the many strands of a student's college experience through analysis of a problem of contemporary concern as approached by the various disciplines represented by students in the seminar.

HUMAN SERVICES

UNDERGRADUATE COURSES

HUS 3010 INTRODUCTION TO HUMAN SERVICES
An introduction to the field of human services. Study of the pro-
fessions and agencies involved in providing human services. Analysis of the values and ethics of various professional associations.

**HUS 3300 SOCIAL POLICY IN THE UNITED STATES**
PR: HUS 3010 or Cl. Historical development of social policy in the United States. The impact of industrialization and urbanization on the individual and family. The changing roles of family, community, state and nation. Analysis of current issues.

**HUS 4020 THE LIFE CYCLE**
An examination of individuals as they move through the various stages of the life-cycle—from birth until death. Attention is given to the physiological and psychosocial changes which occur during infancy, childhood, adolescence, young adulthood, middle age, old age, etc. Identification of major needs of individuals at different stages of life cycle.

**HUS 4500 PLANNING AND EVALUATION OF HUMAN SERVICES PROGRAMS**
PR: HUS 3010 or Cl. Review of approaches to planning, coordination, and evaluation of human services programs. Methods of determining efficiency and effectiveness of health, rehabilita-

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**HUMANITIES**

*Chairperson: D. Rutenberg*  
*Professors: T. B. Hoffman, H. Juergensen, G. S. Kashdin, E. M. MacKay, D. Rutenberg, L. L. Shackson (Emeritus); Associate Professors: C. B. Cooper, S. L. Gaggi, H. B. Gowen, A. J. Sparks, S. A. Zylstra; Assistant Professor: J. R. Spillane; Visiting Lecturer: D. R. White*

**UNDERGRADUATE COURSES**

**HUM 3024 THE HUMANITIES**
The Arts. Analyses of selected works of film, literature, music, and visual arts, including a variety of periods, nationalities and art forms, emphasizing artistic diversity. Especially recommended for students intending to take 4000 and 5000 level Humanities courses at a future date.

**HUM 3214 THE HUMANITIES**
Studies in Culture: The classical and medieval periods. Analyses of selected works of classical and medieval architecture, drama, sculpture, intellectual prose, and other art forms. Typical course focus is on architecture, drama, and intellectual prose.

**HUM 3236 THE HUMANITIES**
Studies in Culture: The Renaissance and the 19th Century. Analyses of selected fiction, drama, painting, architecture, music, and other art forms. Typical course focus is on painting and music.

**HUM 3251 THE HUMANITIES**
Studies in Culture: The 20th Century. Analyses of selected works of 20th Century art, primarily emphasizing film, with secondary emphases on painting and fiction.

**HUM 3271, 3272, 3273 HUMANITIES AND HUMANE VALUES**
Masterpieces of music, visual arts, theater, literature, and philosophy in varying cultural and historical situations.

**HUM 3580 THE CURRENT SCENE**
Live performances in contemporary media will be followed by discussions. The course is designed to bring students into direct contact with artists and their work and to establish an environment for the free exchange of ideas, reactions and judgments of the works presented. The course will emphasize recent developments in the arts with some special attention to current innovations; film environments, mixed-media, improvisational theatre, random composition, kinetic art, and others. (S/U only.)

**HUM 4433, 4434 CLASSICAL ARTS AND LETTERS**
PR: Sophomore standing or Cl. Case studies in the arts and letters of the ancient world.

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**HUMANITIES: THEORY AND PRACTICE**
PR: Humanities major or Cl. Study of theory and methodology of interdisciplinary Humanities, including workshop in which student begins planning Senior paper. (S/U only.)

**HUM 4905 DIRECTED STUDY**
Specialized individual study determined by the student's needs and interests.

**HUM 4906 SELECTED PROBLEMS IN HUMANITIES**
PR: Sophomore standing or Cl. Problems in the interrelationships among the fine arts and the natural, social and behavioral sciences. A senior essay for Humanities majors.

**HUM 4930 SELECTED TOPICS IN HUMANITIES**
PR: Sophomore standing or Cl. This course will deal with a recurrent theme in the arts as, for example, love or death, or will focus on artistic centers such as Renaissance Florence or Paris in the 1920's. Topics will vary; course may be repeated for credit with change of content.
GRADUATE COURSES

HUM 5412 HUMANITIES IN THE ORIENT: INDIA (4)
Examples from the arts and letters of India and the relationship of these arts to the Hindu and Buddhist philosophy-religions.

HUM 5414 HUMANITIES IN THE ORIENT: CHINA (4)
Examples from the arts and letters of China; their relationship to Taoism, Confucianism and other Chinese philosophies; Western influences on 20th-century Chinese arts and letters.

HUM 5415 HUMANITIES IN THE ORIENT: JAPAN (4)
Examples from the arts and letters of Japan, their relationship to Zen Buddhism and other Japanese philosophy-religions; Western influences on 20th-century Japanese arts and letters.

HUM 5422 AFRICAN ARTS AND LETTERS (4)
Examples from both the traditional and contemporary arts and letters of Africa. Africa as a subject in Western art.

HUM 5452,5454,5456 HUMANITIES IN AMERICA (4,4,4)
Case studies in the arts and letters of the United States.

HUM 5465 LATIN AMERICAN ARTS AND LETTERS (4)
Analysis of selected Latin American works of art in their cultural context.

HUM 5485,5486 SELECTED NON-WESTERN HUMANITIES (4,4)
Materials chosen from arts and letters of Asia, Oceania, and the Middle East. May be repeated for credit with change of content.

HUM 6475 STUDIES IN CONTEMPORARY ARTS AND LETTERS (4)
Concentration on major artists and recent trends.

HUM 6493 STUDIES IN CLASSICAL ARTS AND LETTERS (4)
PR: Graduate standing. Examples from the arts and letters of ancient Greece and their relationship to Aegean myths, religious and philosophies. Classical Greek influences on later cultures.

HUM 6494 STUDIES IN MEDIEVAL ARTS AND LETTERS (4)
PR: Graduate standing. Studies in medieval philosophies and their artistic and social expression. Concentrations on early Christian music and manuscript, the communal and monastic ideal (400-1000 A.D.); Romanesque architecture, neo-Platonism and emerging humanism (1000-1200 A.D.); Gothic visual arts—literature, and architecture in relation to philosophical determinism and political absolutism.

HUM 6495 STUDIES IN RENAISSANCE ARTS AND LETTERS (4)

HUM 6496 STUDIES IN ENLIGHTENMENT ARTS AND LETTERS (4)
PR: Graduate standing. Studies in painting, sculpture, music, literature, and architecture in relation to philosophical determinism and political absolutism.

HUM 6497 STUDIES IN NINETEENTH CENTURY ARTS AND LETTERS (4)
PR: Graduate standing. 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.

HUM 6909 INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

HUM 6915 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

HUM 6934 SELECTED TOPICS IN HUMANITIES (1-4)
Each topic is a course of study in a subject not covered by a regular course. May be repeated for credit with change of content.

INTERNATIONAL STUDIES PROGRAM

UNDERGRADUATE COURSES

AREA STUDIES
The following five courses (AFS 3930, ASN 3000, ASN 3030, EUS 3000, and LAS 3001), dealing with one or more countries of a given region, will select and emphasize subject matter from the following topics: its history, its people and their cultures, its social psychology and national characteristics, its resources, its economic and industrial characteristics, its literature, religion, and dominant values, its political framework and outlook, its social structure, and its current problems. Each course may be repeated when countries of concentration vary, but the same country may not be repeated for credit.

AFS 3930 AFRICA (4)
ASN 3000 ASIA (4)
ASN 3012 JAPAN TODAY (4)
An introduction to modern Japan and its world role, drawing upon insights provided by the social and behavioral sciences. Emphasis is placed upon Japan's foreign relations.

ASN 3014 CHINA TODAY (4)
Using a multi-disciplinary approach to study China's nation-building efforts, foreign relations, social system, and culture, the course is intended to provide a basic understanding of contemporary China, (1949—present). Major topics include Maoism, Sino-American and Sino-Soviet relations, and China's economic development.

ASN 3030 THE MIDDLE EAST (4)

EUS 3000 EUROPE (4)
EUS 3022 RUSSIA TODAY (4)
An interdisciplinary approach to understanding Russian life and the makeup of the Soviet citizen today, including the impact of these elements on the current and prospective role of the Soviet Union in world affairs.

INR 2085 WORLD TENSIONS (3)
A study of the major causes and consequences of critical tensions which lead to serious social disturbances between and within the independent states of the world. The analysis covers tensions which are usually relieved by peaceful means and those which often lead to internal and external violence between states and/or other organized groups.

INR 3336 INTELLIGENCE AND U.S. FOREIGN POLICY (4)
An examination of the role of intelligence and the intelligence community in U.S. Foreign policy, with emphasis on the period since World War II. The organization and roles of U.S. intelligence agencies, (CIA, DIA, NSA, and the military intelligence branches), are described. Also presented are the recent history of U.S. covert action abroad and a case study of intelligence as it related to U.S. involvement in the Vietnam conflict.

INR 3503 THE UNITED NATIONS AND PEACE (4)
Study and analysis of the origin, evolution and possible future of the United Nations Organization. After a general survey of major trends in international law leading to the reinforcement of the concept of peaceful settlement of disputes, the League of Nations is studied as a transition to a better structure of international society. Emphasis is put on the principle of sovereignty with regard to the applicability of U.N. resolutions. With 51 members at its creation in 1945 and possibly 150 in the fall of
1978, the U.N. is the best mirror of the dramatic change in international relations. The course uses major issues, such as decolonization, disarmament, and international economic cooperation to illustrate the role of the U.N. as "a harmonizing forum" for conflicting political and ideological systems.

**INR 4083 READINGS SEMINAR IN SINO-SOVIET RELATIONS**

A readings seminar on the origin, development, present status, and future possibilities of the Sino-Soviet relations, focusing on the period 1956 to present, i.e., the Sino-Soviet dispute. Political, economic, ideological, and security factors are considered. In addition to the bilateral relationship between Russia and China, the broader international ramifications are also dealt with.

**LAS 3001 LATIN AMERICA**

**SSI 1211 WORLD PERSPECTIVE**

Application of the interdisciplinary approach to the study of the international system, major world regions and problems.

**SSI 2361 WORLD IDEOLOGIES**

A course which details and examines the ideologies of today's 160 independent countries. These are analyzed in their political, social, cultural, and historical context.

**SSI 3128 ENERGY AND FOREIGN POLICY**

This course consists of an inquiry into the past, present, and future interdependent roles of energy (especially petroleum) policy and foreign policy, with interdisciplinary emphasis considering and integrating political, economic, social, cultural, and military aspects of the subject area.

**SSI 3221 AMERICA'S ROLE IN THE WORLD**

Application of the interdisciplinary approach to the study of America's relations with other nations through analysis of political, socio-economic, cultural, and military problems, conflicting national interests, and the formulation of foreign policy and its implementation.

**SSI 3242 INTERNATIONAL TERRORISM**

The study of international terrorism as a social phenomenon of the contemporary world which is increasingly attractive to individuals and groups associating themselves with various causes ranging from national liberation movements to networks of philosophical anarchists.

**SSI 3360 COMMUNISM IN THE MODERN WORLD**

An interdisciplinary approach to the nature of Communism, its philosophic bases, its anti-religious bias, its economic, social and political theories and practices, the arts and sciences under Communist ideology, its conduct of foreign affairs and associated programs and techniques. Emphasis will be on Soviet and Chinese communism.

**SSI 3930 SELECTED TOPICS IN THE SOCIAL SCIENCES**

Course content depends on student demand and instructors' interest. Topics will have clear interdisciplinary nature. Course may be repeated as topics vary, but the same topic may not be repeated.

**SSI 3955 OVERSEAS STUDY**

A program of individual or group research in a foreign country. Selection of the student, his preparation for the study, and subsequent evaluation to be supervised by a faculty committee.

**SSI 4250 THE EMERGING NATIONS**

PR: Upper division standing or CI. This course examines the processes and problems involved when an underdeveloped country seeks to develop a modern industrial civilization.

**SSI 4900 DIRECTED READINGS**

PR: CI plus upper division standing. May be repeated. To provide advanced students with intensive reading of interdisciplinary nature in areas of specific interest.

**SSI 4910 DIRECTED RESEARCH**

PR: CI plus upper division standing. May be repeated. To provide advanced students with interdisciplinary research experience in areas of specific interest.

**SSI 4936 SENIOR SEMINAR**

PR: Senior standing and CI. To provide an integrating seminar experience for International Studies' majors.

**WST 3275 WOMEN IN THE DEVELOPING WORLD**

This course surveys the status of women in Asia, Africa, Latin and Caribbean America as compared to the USA, Canada, West Europe, and Marxist-Leninist countries. (Also offered under Women's Studies.)

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**LIBERAL STUDIES**

*Director:* J. B. Camp.

**UNDERGRADUATE COURSES**

**IDS 3300 STRUCTURES OF KNOWLEDGE AND KNOWING**

The distinctive modalities of human knowledge and consciousness as reflected in the classic distinctions between: sensory/motor, qualitative/quantitative, logical/mathematical, normative/descriptive, ethical/physical, substance/function, etc., apart and in relation to non-rational knowledge.

**IDS 3310 PROGRESS AND UTOPIA**

Examination of the modern backgrounds of contemporary awareness: particularly the development of historical awareness of ourselves as scientifically, technologically, and sociologically "progressive"—in relation to both utopic and dystopic futures.

**IDS 3320 FREEDOM AND THE SELF**

Analysis of the notion of the self in relation to the idea of freedom, involving comparative treatment of the variety of standpoints of conceiving the individual personality in relation to the social context.

**IDS 4344 SEMINAR: MAN AND NATURE**

PR: Senior standing or CI. Examination of aspects of contemporary theories of nature and man deriving in the liberal arts, to the purpose of developing a general assessment of contemporary knowledge and methods of knowing.

**IDS 4930 SELECTED TOPICS**

Course content determined by student's and instructor's interest and need.

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**LINGUISTICS — see Communication**

**MARINE SCIENCE**

**UNDERGRADUATE COURSES**

**OCE 3001 INTRODUCTION TO OCEANOGRAPHY**

Topics in biological, chemical, geological, and physical ocean-
Marine Science

Graduate Courses

EOC 5080 SCIENTIST-IN-THE-SEA I, HYPERBARIC OPERATIONS (4)
PR: CI and diver certification (NAVI or equivalent). Basic principles, physiology, and psychology involved in submarine hyperbaric operations, inside and outside habitats. Lec.-lab. (Also listed under Engineering.)

EOC 6081 SCIENTIST-IN-THE-SEA II, MARINE SCIENCES (4)
PR: CI and diver certification (NAVI or equivalent). Research equipment and techniques for underwater work in oceanography presented by practicing research workers in the field. Lec.-lab. (Also listed under Engineering.)

EOC 6082 SCIENTIST-IN-THE-SEA III, UNDERWATER ENGINEERING (4)
PR: CI and diver certification (NAVI or equivalent). The ocean as a constraint for construction and devices. Factors involved in planning and design of underwater operations and experimental devices. Lec.-lab. (Also listed under Engineering.)

OBC 5050 BIOLOGICAL OCEANOGRAPHY (4)
PR: Graduate standing or CI, BSC 2010C, BSC 2011C, BSC 2012. The study of life in the sea with special reference to distribution, reproduction, adaptation, competition, and populations. Lec.-lab. For students who have not majored in a biological science.

OBC 6671 METHODS IN BIOLOGICAL OCEANOGRAPHY (2)
PR: CI. To acquaint students with laboratory equipment and techniques currently used in biological oceanography. Emphasis will be on field problems especially those requiring research at sea.

OCC 5050 CHEMICAL OCEANOGRAPHY (4)
PR: CHM 2047 and CI. The ocean as a chemical system, including composition, physical-chemical aspects, role of nutrients, trace metals, interaction between bottom and overlying water, modern methods of analysis in routine use in oceanography. Lec.-lab.

OCC 6057 METHODS IN CHEMICAL OCEANOGRAPHY (2)
PR: OCC 5050 or CI. An intensive study of the use and limitations of field and laboratory equipment which is a standard part of chemical oceanographic research into the behavior of dissolved and particulate constituents in seawater.

OCE 5085 MARINE POLICY (3)
PR: OCE 3001 or CI. Course explores marine problems and their impact on society. Topics of interest include financing and organization of marine science; regulation (local, state, and Federal) of uses of marine waterways, and the sea; political, social, and legal problems associated with marine pollution and the recovery and development of marine resources; conservation and public decision-making in the marine sphere.

OCE 5934 SELECTED TOPICS IN OCEANOGRAPHY (1-4)
PR: CI. Special topics in biological, chemical, geological, and physical oceanography.

Mass Communications


Undergraduate Courses

ADV 3000 INTRODUCTION TO ADVERTISING (4)
PR: MMC 3100 and MMC 3602. A study of the structures, functions, and persuasive language of advertising in mass media with attention to social, political, economic, and legal aspects.
ADV 3101 ADVERTISING COPY
PR: ADV 3000, ECO 1000 or ECO 2023, MAR 3023, or CI.
Study of laboratory experience in preparation of advertising copy for newspapers, magazines, radio, television, direct mail, outdoor displays, and special items.

ADV 3103 RADIO-TELEVISION ADVERTISING
PR: ADV 3000 or CI. An intensive study and analysis of radio and television for advertising purposes, including copywriting, script and storyboard preparation, time buying and selling techniques, audience research methods, and basic production concepts.

ADV 3300 ADVERTISING MEDIA STRATEGY
PR: ADV 3000 or CI. Problems, techniques, strategy of media research, planning, budgeting and effective utilization in advertising.

ADV 3700 RETAIL ADVERTISING PLANNING AND EXECUTION
PR: ADV 3000 and ADV 3101 or CI. A study of retail advertising, including management decisions, processes, procedures, media planning, production techniques, and problems affecting the development of advertising to fulfill retail objectives.

ADV 4801 ADVERTISING CAMPAIGNS
PR: ADV 3101, ADV 3300, MAR 3503. Advanced advertising course requiring planning and production of complete general advertising campaign, including research, production methods, budgeting, and media schedules.

ADV 4940 ADVERTISING PRACTICUM
PR: Senior standing and CI. For selected Advertising Sequence major. Practical experience outside the classroom in a live advertising situation where the student works for academic credit under the tutelage of a professional practitioner.

ENG 3130 LITERATURE AND THE FILM
PR: ENC 1135. A study of what happens when a novel is adapted for the movies; of the insights of modern writers and literary critics into the motion picture as an art form analogous to, yet distinct from, literature and of the impact of literature on film-making. Not open for credit to Mass Communication majors.

FIL 3004 THE FILM AS MASS COMMUNICATION
I: SYNTAX
PR: MMC 3100 and MMC 3602. The language, conventions, elements, and patterns of the film medium as related to current models of effective mass communication and new theories of non-verbal communication. Concurrent laboratory experiences in control of light and line.

FIL 3100 INTRODUCTION TO FILM WRITING
PR: FIL 3004 or CI. An introduction to the techniques of writing for the film employing adaptations from fiction and examinations of scripts as models and as subjects for critical analysis. Special emphasis on learning the Language of the Camera.

FIL 3200 THE FILM AS MASS COMMUNICATION II: RHETORIC AND STYLISTICS
PR: FIL 3004. A continuation of FIL 3004 to include the effective arrangements of scenes and sequences in motion picture and television films. Concurrent laboratory experiences in sound and editing.

FIL 3201 THE FILM AS MASS COMMUNICATION III: WORKSHOP
PR: FIL 3200. Practical exercises, demonstrations, and experiences in applying material covered in FIL 3004 and FIL 3200.

FIL 3401 CLASSICS OF THE SILENT FILM
Examples of the silent film studies from social, intellectual, historical, and artistic points of view.

FIL 3402 CLASSICS OF THE SOUNDFILM
Examples of the sound film studies from social, intellectual, historical, and artistic points of view.

FIL 3502 PHILOSOPHY AND THE FILM
A study of the philosophical implications of the motion picture as an art form; esthetics in general versus film esthetics; the connection between the world views of such modern philosophers as Bergson, Whitehead, and Bradley, and the world view expressed through the motion picture; the connections between "pure ideas" the ideas in the documentary film and the ideas in the fictional film. Not open for credit to Mass Communications majors.

FIL 4205 ADVANCED CAMERA TECHNIQUES
PR: FIL 3004. Advanced camera technology, professional procedures, emulsion selection, color control, studio and location shooting, laboratory methods, matte shooting, and special effects.

FIL 4206 ADVANCED FILM LIGHTING
PR: FIL 4205 or CI. Advanced lighting of studio and location sets stressing professional procedures and standards from pre-production to post-production.

FIL 4207 SENSITOMETRY AND PHOTOMETRICS
PR: FIL 3004. The materials and processes of cinema photo; response of materials to development and exposure.

FIL 4208 FILM DIRECTING
PR: FIL 3004. Introduction to the techniques of film direction.

FIL 4209 CINEMA DYNAMICS
PR: FIL 3004. Techniques for the description and analysis of intra-frame movement. Concurrent laboratory in subject and camera movement.

FIL 4300 THE DOCUMENTARY FILM
PR: Sophomore standing. The development of the documentary movement; earliest newsreels; Flaherty, Grierson and the GPO Unit. U.S. Government-sponsored films, the Canadian Film board, Cinema Verite; study of about 60 fact-films from some 20 countries. Stresses objective criteria, critical analysis.

FIL 4403 SOCIAL HISTORY OF THE FILM TO 1945
PR: MMC 3100 and MCC 3602. The industrial, technological, philosophical, and social factors bearing on the rise and development of the motion picture as a popular art. Intensive study of a series of films through screenings and readings.

FIL 4404 SOCIAL HISTORY OF THE FILM, 1945 TO THE PRESENT
PR: MMC 3100 and MCC 3602. A continuation of FIL 4403, covering the development of the film from 1945 to the present. (FIL 4403 is not a prerequisite.)

FIL 4500 FILM CRITICISM
PR: FIL 4300, FIL 4403, FIL 4404, JOU 3100, CI. The film as a mass communication aspect with other important aspects. Critical analysis of selected films and intensive readings in the theory of film. Literary, social, dramatic, philosophical, and historic approaches to film criticism.

JOU 3006 MAGAZINES IN SOCIETY
PR: MMC 3100 and MMC 3602. A study of the development of various types of magazines in America, and a critical analysis of current problems and performance of periodicals along with changes indicated for the future.

JOU 3100 BEGINNING REPORTING
PR: MMC 3100 and MC 3602. Basic instruction in news judgment, sources of news, newsgathering, and newswriting techniques. Typing ability is required.

JOU 3101 ADVANCED REPORTING
PR: CCJ 2030, JOU 3100, PHI 1103. Getting information and writing the more complex and specialized story, techniques of investigative and analytical reporting, including ethical and legal considerations.

JOU 3205 TYPOGRAPHY I
PR: MMC 3100 and MMC 3602. The history and design of type, major classifications of type faces, typographic nomenclature, printer's measurements, and the science of type design and identification. Laboratory work.

JOU 3206 TYPOGRAPHY II
PR: JOU 3205 or CI. A study of the history of typesetting, the emergence of computers and coldtype composition; extensive study and use of copyfitting methods for body type, display, and headlines; principles of typography and photocomposition including readability and legibility. Laboratory work.
MASS COMMUNICATIONS

JOU 3300 MAGAZINE ARTICLE AND FEATURE WRITING (4)
PR: ENC 3486, JOU 3100, or CI. Planning, researching, writing, and marketing articles for general and special interest magazines and newspaper magazine supplements; experience in developing article ideas; inductive analysis of contemporary magazine articles.

JOU 3306 CRITICAL WRITING: EDITORIALS, REVIEWS, COLUMNS (4)
PR: JOU 3101, JOU 4200. Interpretive and opinion writing for the mass media. Analysis and discussion of current events as a basis for critical thinking and editorial writing; evaluation of editorial pages of leading newspapers. Study of journalistic techniques involved in writing art, drama, music, and book reviews and satire, sports, or personal columns.

JOU 3940 REPORTING PRACTICUM (1-2)
PR: JOU 4104 and CI. For selected News-Editorial Sequence majors. Practical experience outside the classroom in a live newspaper reporting situation where the student works for academic credit under the tutelage of a professional practitioner.

JOU 4104 PUBLIC AFFAIRS REPORTING (4)
PR: JOU 3101 or RTV 3300, POS 2041 and POS 3142. Covering city council meetings, courthouse, city hall, courts, society, and other special assignments. Emphasis is on coverage of major governmental units of all levels of government, including examination and interpretation of public documents and records.

JOU 4200 NEWS EDITING I (4)
PR: ECO 1000, JOU 3100, and SOC 1020 or CI. Evaluating news and its display; editing and rewriting copy for the mass media, with emphasis on the daily newspaper; news judgment, headlines, makeup; ethical problems.

JOU 4202 NEWS EDITING II (4)
PR: JOU 4200, POS 2041. Continuation of JOU 4200, with more intensive practice on the copydesk in evaluating, processing, editing, and headline live wire copy and local copy; experimental makeup; managing the copy desk. Current events and analysis of selected daily newspapers.

JOU 4208 MAGAZINE EDITING AND PRODUCTION (4)
PR: JOU 3300, JOU 4200 or CI. A study of magazines in America: preparation of copy, photographs and art for printing; issue planning and design; examination of production methods, including printing, typography and mechanicals. Preparation of a detailed proposal and comprehensive for a hypothetical magazine.

JOU 4800 MASS MEDIA STUDIES (4)
PR: Junior standing, JOU 3100, MMC 3000 or CI. Intensive review of mass communications theory, practice, and content as they relate to teaching mass media in secondary schools, with some emphasis also on supervision of school publications. Not open to Mass Communications majors.

JOU 4910 EDITING PRACTICUM (1-2)
PR: Senior standing, JOU 4202 and CI. For selected News-Editorial Sequence majors. Practical experience outside the classroom at a daily newspaper copydesk, where the student works for academic credit under the tutelage of a professional news editor.

JOU 4944 MAGAZINE PRACTICUM (2)
PR: Senior standing and CI. For selected Magazine Sequence majors. Practical experience outside the classroom in a live magazine or industrial publication situation where the student works for academic credit under the tutelage of a professional practitioner.

MMC 3000 SURVEY OF MASS COMMUNICATIONS (3)
The functions of agencies of mass communication and their impact upon society; critical analyses of press performance in relation to current events; evaluation of the press through a study of its history. Not open for credit to Mass Communications majors.

MMC 3100 WRITING FOR THE MASS MEDIA (4)
PR: Sophomore standing; 2.5 GPA; grade of "C" in ENC 1102, ENC 1135, ENC 1168; typing proficiency. An introduction to the basic skills of writing for the mass media with practice in library research, persuasive writing, and informational writing.

MMC 3602 MASS COMMUNICATIONS AND SOCIETY (4)
PR: Sophomore standing; 2.5 GPA; grade of "C" in ENC 1102, ENC 1135, ENC 1168; typing proficiency. A survey of the history, theory processes, and philosophy of mass communications and the mass media in the United States, and their relationship to the other major institutions of American society.

MMC 3700 THE POPULAR ARTS IN AMERICA (4)
A survey of the growth of the popular arts (motion pictures, radio, television, art, best sellers, jazz and other forms of music, the comics, etc.) as mirrors, transmitters and transformers of American cultural values.

MMC 3936 SELECTED TOPICS IN MASS COMMUNICATIONS STUDIES (1-4)
Courses designed to meet current or specific topics of interest to the instructor and students.

MMC 4200 HISTORY AND PRINCIPLES OF COMMUNICATIONS LAW (4)
PR: MMC 3100 and MMC 3602. Historic and Constitutional backgrounds of freedom and control of expression, statutory enactments, major Supreme Court cases, court decisions and administrative rulings which have shaped legal control of communications.

MMC 4201 GOVERNMENT AND THE MEDIA (4)
PR: MMC 4200. The relationships between government and the media, with emphasis on current activities of such regulatory agencies as the Federal Communications Commission, the Federal Trade Commission and other commissions; the courts, the Congress and the Executive; examination of media and industry codes and standards.

MMC 4300 INTERNATIONAL COMMUNICATION (4)
Mass communications as internal and international systems; flow of the news; international news communications networks; satellite communications; overseas activities of American media interests; international propaganda; communication and national development; international media organizations and their activities.

MMC 4900 DIRECTED READING IN MASS COMMUNICATIONS (1-4)
PR: Junior standing, CC and CI. Reading and directed study in special topics.

MMC 4910 INDIVIDUAL RESEARCH IN MASS COMMUNICATIONS (1-4)
PR: CC and CI. The course provides means for a student to do independent study in an area not covered by a numbered course.

MMC 4931 SENIOR SEMINAR: INTERCOMMUNICATION—THE MASS MEDIA IN PERSPECTIVE (4)
PR: Senior standing; open only to Mass Com. majors. The interrelationships among the mass media and institutions; their effect upon each other and upon contemporary society.

MMC 4936 SELECTED TOPICS IN MASS COMMUNICATIONS STUDIES (1-4)
PR: Junior standing. Courses designed to meet current or specific topics of interest to instructors and students.

PUR 3000 PRINCIPLES OF PUBLIC RELATIONS (4)
PR: ECO 1000 and MAR 3023, MMC 3100 and MMC 3602. The functions of public relations within corporate and institu-
tional structures; ethical standards of practice, and relationships of the practice to the public media and other modes of contemporary communication.

**PUR 4001 ADVANCED PUBLIC RELATIONS** *(4)*
PR: PUR 3000 and PUR 4100 or CI. As final course in PR sequence, it involves intensive study of counseling and problem-solving techniques used in professional practice. Analysis of case studies and preparation of complete PR program. Extensive reading in the literature of contemporary practice.

**PUR 4100 WRITING FOR PUBLIC RELATIONS** *(4)*
PR: JOU 3100, PUR 3000. Persuasive writing techniques unique to the practice of public relations; application of principles and ethical practices to problem-solving situations drawn from case studies; writing formats used in promotional and publicity literature.

**PUR 4601 PUBLIC INFORMATION** *(4)*
PR: AMH 2010 or AMH 2020, POS 2041, POS 2112, and PUR 4100, or CI. The nature of government public information organization, practices, and criticisms thereof; the role of information specialists in reporting government at all levels to the public; conceptual differences in approach and techniques between governmental and private sector public relations.

**PUR 4700 PUBLIC RELATIONS PRACTICUM** *(2)*
PR: Senior standing and CI. For selected Public Relations Sequence majors. Practical experience outside the classroom in a professional public relations situation where the student works for academic credits under the tutelage of a professional practitioner.

**RTV 3000 INTRODUCTION TO BROADCASTING** *(4)*
PR: MMC 3100 and MMC 3612. A survey of the organization, structure, and function of the broadcasting industry.

**RTV 3100 WRITING FOR RADIO AND TV** *(4)*
PR: ENC 3466 or ENC 3486, RTV 3000. The writing of radio and television scripts such as documentaries, children's programs, commercials, dramas, talks, and demonstrations.

**RTV 3210 RADIO PRODUCTION AND DIRECTION** *(4)*
PR: RTV 3000. Radio production and direction; laboratory and broadcast experiences.

**RTV 3230 BROADCASTING ANNONCING** *(4)*
PR: ORI 3000, RTV 3000, SPC 2023 or LIN 2200 or THE 2020. Development of skills required for effective announcing and other appearances before microphone and camera.

**RTV 3300 BROADCAST NEWS** *(4)*
PR: JOU 1100, RTV 3000. The study and methods in gathering, writing, and editing newscasts for radio and television.

**RTV 3941 RADIO PRACTICUM** *(1-2)*
PR: RTV 3210 and CI. The study, rehearsal, and production of radio programs and materials.

**RTV 4205 ADVANCED TV PRODUCTION AND DIRECTION** *(4)*
PR: RTV 4220 and junior standing. Intensive study and practice of the techniques of TV production and direction with emphasis on both creative and experimental aspects of TV programming.

**RTV 4220 TV PRODUCTION AND DIRECTION** *(4)*
PR: RTV 3000 and junior standing. A basic course in the techniques of producing and directing TV programs.

**RTV 4301 TV NEWS FILM** *(4)*
PR: RTV 3300 or CI. Techniques in writing and filming for television news.

**RTV 4402 MEDIA CRITICISM: BROADCASTING** *(4)*
PR: RTV 3000. A critical study of contemporary broadcast content.

**RTV 4500 THE BROADCAST PROGRAM** *(4)*
PR: RTV 3000. Program concepts, resources, costs, selection and scheduling. Analysis of programming in terms of structure, appeals and strengths.

**RTV 4700 BROADCAST LAW** *(4)*
PR: RTV 3000 or CI. A study of the broadcasting industry from the perspective of governmental regulation and the political process with special emphasis on how regulatory policy is determined.

**RTV 4942 TV PRACTICUM** *(1-2)*
PR: RTV 4220 or CI. The study, rehearsal and production of television programs and materials.

**VIC 3000 INTRODUCTION TO VISUAL COMMUNICATIONS** *(4)*
PR: MMC 3100 and MMC 3602. The survey of visual communication theory, techniques, and their contemporary application and social influences as applied to the visual media with emphasis on still photography, motion pictures, video tape, and graphics.

**VIC 3100 PROTOJOURNALISM I** *(4)*
PR: MMC 3100 and MMC 3603. Camera operation, darkroom techniques, picture composition; editing, ethics, history, and laws in connection with photojournalism.

**VIC 3102 PROTOJOURNALISM II** *(4)*
PR: VIC 3100 or CI. Advanced process and practice of photography for publication. Content includes advanced camera and laboratory techniques, publication requirements and theory of photochemical color separation used in magazine and newspapers. Emphasis is placed on student production.

**VIC 4103 COLOR PHOTOGRAPHY** *(4)*
PR: VIC 3102 or CI. Development of knowledge and skills of color photography for publication and presentation. Emphasis is on the use of transparency and negative color materials in their application to the media. Laboratory required.

**GRADUATE COURSES**

**FIL 5904 FILM STUDIES** *(4)*
PR: Senior standing. Not open for credit to Mass Communications majors. An intensive review of film theory and practice as they relate to content in secondary school subjects such as English, social studies, history of journalism. Lab.

**FIL 5601 FILM PRODUCTION MANAGEMENT** *(4)*
PR: FIL 3201. The planning and management of motion picture productions.

**MMC 5400 THEORY OF MASS COMMUNICATION** *(4)*
PR: Senior standing. The nature of the mass communication process, its effects on individuals and groups; the moral, ethical, social and political implications in influencing and directing behavior. Analyses of theories of mass communication.

**MMC 5900 DIRECTED READINGS IN MASS COMMUNICATIONS** *(1-4)*
PR: Senior standing, CC and CI. Reading and directed study in special topics.

**MMC 5910 INDIIVDUAL RESEARCH IN MASS COMMUNICATIONS** *(1-4)*
PR: Senior standing, CC and CI. The course provides means for a student to do independent study in an area not covered by a numbered course.

**MMC 5936 SELECTED TOPICS IN MASS COMMUNICATIONS STUDIES** *(1-4)*
PR: Senior standing. Courses, including summer workshops, designed to meet current or specific topics of interest to the instructor and students.

**MATHEMATICS**

UNDERGRADUATE COURSES

COP 3215 COMPUTER APPLICATIONS OF MATHEMATICS (4)
CR: MAC 3412 or C.C. Computer applications to mathematics,
exclusively calculus, with FORTRAN programming.

MAA 4211 ADVANCED CALCULUS I (3)
PR: MAC 3414, with a grade of "C" or better; MIF 3102 and
MAS 3103 or CI. Concepts of limit, continuity, differentiation,
and integration of functions in one and several variables. Major
topics include partial differentiation, Riemann-Stieljes inte­
grals, improper integrals, infinite series, uniform convergence,
implicit-function theorems, line and surface integrals.

MAA 4212 ADVANCED CALCULUS II (3)
PR: MAA 4211. Continuation of MAA 4211.

MAA 4213 ADVANCED CALCULUS III (3)
PR: MAA 4212. Continuation of MAA 4212.

MAC 1104 COLLEGE ALGEBRA (4)
Real numbers and their properties, algebraic expressions, equa­
tions and inequalities, functions, polynomials, exponential and
logarithmic functions. (No credit for students with credit in MAC
2242.)

MAC 1114 COLLEGE TRIGONOMETRY (3)
Angles, Trigonometric functions, properties and graphs of
trigonometric functions, right triangles, laws of sines and cos­
es, polar coordinates.

MAC 2242 PRE-CALCULUS MATHEMATICS (4)
PR: Two years of secondary school mathematics including one
year of algebra or HCC mathematics course taught on USF
campus or CC. Students with a strong secondary school mathema­
tics preparation should start with MAC 2243. Basic algebraic
concepts, functions, and graphs. The sequence MAC 2242, MAC
2243, MAC 2244 is primarily for students from Biological Sci­
ces, Social Sciences, and Business.

MAC 2243 ELEMENTARY CALCULUS I (4)
PR: MAC 1104 or MAC 2242 or four years of secondary school
mathematics or CC. The derivative, techniques of differentia­
tion, curve sketching, applications of the derivative. (No credit
for Mathematics majors or students with credit in MAC 3282 or
MAC 3412.)

MAC 2244 ELEMENTARY CALCULUS II (4)
PR: MAC 2243. Antiderivatives, the definite integral, tech­
niques of integration, logarithmic and exponential functions, ap­
plications. (No credit for Mathematics majors or students with
credit in MAC 3282 or MAC 3412.)

MAC 3281 ENGINEERING CALCULUS I (4)
PR: Pass diagnostic tests in algebra and trigonometry. Differentia­
tion, limits, differentials, extrema, indefinite integral. (No credit
for students with credit in MAC 2243 or MAC 3411.)

MAC 3282 ENGINEERING CALCULUS II (4)
PR: MAC 3281. Definite integral, trigonometric functions, log,
exponential, applications. (No credit for students with credit in
MAC 2244 or MAC 3412.)

MAC 3283 ENGINEERING CALCULUS III (3)
PR: MAC 3282. Techniques of integration, numerical methods,
analytic geometry, polar coordinates, vector algebra, applica­
tions. (No credit for students with credit in MAC 3413.)

MAC 3284 ENGINEERING CALCULUS IV (3)
PR: MAC 3283. Multivariate calculus, series, applications. (No credit
for students with credit in MAC 3414.)

MAC 3411 CALCULUS I (5)
PR: MAC 1104, MAC 1114 with a grade of "C" or better or CC. Limits, derivatives, applications. (No credit for students with credit in MAC 2243 or MAC 3281.)

MAC 3412 CALCULUS II (4)
PR: MAC 3411 with a grade of "C" or better or CC. Antiderivatives, the definite integral, applications, log, exponential and trig functions. (No credit for students with credit in MAC 2244 or MAC 3282.)

MAC 3413 CALCULUS III (4)
PR: MAC 3412 with a grade of "C" or better or CC. Integration,
polar coordinates, conic sections, vectors, indeterminate forms and improper integrals. (No credit for students with credit in MAC 3283.)

MAC 3414 CALCULUS IV (4)
PR: MAC 3413 with a grade of "C" or better or CC. Vectors in
3-space, partial derivatives, multiple integrals. (No credit for stu­
dents with credit in MAC 3284.)

MAD 4401 NUMERICAL ANALYSIS I (4)
PR: MAS 3103; ability to program a digital computer. Interpola­
tion and quadrature, finite differences, numerical solution of al­
gebraic and transcendental equations, numerical solution of dif­erential equations, computer techniques.

MAD 4402 NUMERICAL ANALYSIS II (4)
PR: MAD 4401 and MAP 4302. Continuation of MAD 4401.

MAE 3810 NUMBER SYSTEMS (5)
The counting numbers, their properties and operations. The in­
tegers, their properties and operations. Prime numbers, modu­lar arithmetic. Rational numbers, their properties and operations.
(Open only to Elementary Education majors.)

MAE 3811 BASIC ALGEBRAIC CONCEPTS (4)
PR: MAE 3810. Equations, systems of equations and ine­qualities. The real numbers as a complete ordered field. Com­plex numbers. (Open only to Elementary Education majors.)

MAP 4302 DIFFERENTIAL EQUATIONS (4)
PR: MAC 3414. First order linear and nonlinear differential
equations, higher order linear equations, applications.

MAS 3103 LINEAR ALGEBRA (4)
PR: MAC 3411 or CC. Vectors, matrices, systems of linear equa­
tions, linear transformations.

MAS 3114 MATRICES AND APPLICATIONS (4)
Vectors and matrices with applications selected from linear pro­gramming, game theory and graph theory. Emphasis on applica­tions to business and the social sciences. (Credit for all science
majors except Mathematics.)

MAS 4156 VECTOR ANALYSIS (3)
PR: MAC 3414. The algebra and calculus of vectors, applica­tions, general coordinates, introduction to tensor analysis. (No credit
for both MAA 4213 and MAS 4156.)

MAS 4301 ELEMENTARY ABSTRACT ALGEBRA (3)
PR: MIF 3102 or CC. Groups, rings, integral domain, fields, in­tegers, the rational, real, and complex number systems.

MAT 4906 INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the
student's needs and interests. The written contract required by
the College of Natural Sciences specifies the regulations govern­
ing independent study. May be repeated. (S/U only.)

MAT 4930 SELECTED TOPICS IN MATHEMATICS (1-6)
PR: CI. The course content will depend on the interest of faculty
members and student demand.

MGF 1113,1114 MATHEMATICS AND THE
MODERN WORLD I, II (4,4)
Illustrates the relationship of mathematics to our world and puts
the development of mathematics in a historical perspective.

MGF 1202,1203 FUNCTIONAL MATHEMATICS I, II (4,4)
PR: Two years of secondary school mathematics including one
year of algebra of MAT 1033 (CCC course taught on USF cam­pus) or CC. Designed as a terminal course for general cultural
purposes. Explores the language of mathematics, set theory,
linear programming, matrices, probability, statistics, applica­tions.
MTG 3204 INFORMAL GEOMETRY (4)
Concepts of length, congruence, similarity, transformations in the plane. Ruler and compass constructions, impossible constructions, coordinate systems, graphs, lines and curves. (Open only to Elementary Education majors.)

MTG 4212 GEOMETRY I (3)
PR: MAC 3411. Emphasis on axiomatics, advanced Euclidean geometry, elements of projective geometry, non-Euclidean geometries.

MTG 4213 GEOMETRY II (3)
PR: MTG 4212. Continuation of MTG 4212.

STA 3023 INTRODUCTORY STATISTICS I (5)
Hypothesis testing, estimation; normal, Chi-square, t, F, binomial, multinomial, distributions; ANOVA, CR, RCB designs; single df, regression, correlation, contingency tables. Students who successfully complete this course may not also receive credit for either ECO 4402 and GEB 3121 or STA 3122 (No credit for Mathematics Majors.)

STA 3024 INTRODUCTORY STATISTICS II (5)
PR: STA 3023 or CC. Factorials, ANCOV; multiple curvilinear regression; response surfaces; Latin square, Split Plots, incomplete blocks designs; distribution free methods.

STA 3404 ELEMENTARY PROBABILITY (4)
Counting techniques, probability, expectation, probability distributions, the law of large numbers. (No credit for Mathematics majors. Credit for Department of Biology majors.)

STA 4321 INTRODUCTION TO STATISTICS (4)

STA 4442 INTRODUCTION TO PROBABILITY (4)
PR: MAC 3414, MIFE 3102. Introduction to probability theory using calculus. Basic ideas of probability and random variables, discrete probability functions, continuous probability densities including normal, gamma, $x^2$, and Weibull, and transformations of random variables.

MATHEMATICS

MAA 5306 REAL ANALYSIS I (4)

MAA 5307 REAL ANALYSIS II (4)
PR: MAA 5306. Continuation of MAA 5306.

MAA 5402 COMPLEX ANALYSIS I (4)
PR: MAA 4211. Complex numbers, analytic functions and mappings, integrals.

MAA 5403 COMPLEX ANALYSIS II (4)
PR: MAA 5402. Power series, residues and poles, conformal mappings.

MAA 5405 APPLIED COMPLEX ANALYSIS (4)
Complex numbers, analytic and harmonic functions. Series. Contour integrals, residue theory. Conformal mappings. (A survey course emphasizing techniques and applications.) (No credit for students with credit in MAA 5402 and MAA 5403.)

MAA 6406 COMPLEX ANALYSIS I (3)

MAA 6407 COMPLEX ANALYSIS II (3)
PR: MAA 6406. Continuation of MAA 6406.

MAA 6408 COMPLEX ANALYSIS III (3)
PR: MAA 6407. Continuation of MAA 6407.

MAA 6516 INTRODUCTION TO FUNCTIONAL ANALYSIS I (4)

MAA 6517 INTRODUCTION TO FUNCTIONAL ANALYSIS II (4)
PR: MAA 6516. Continuation of MAA 6516.

MAA 6616 MEASURE AND INTEGRATION I (3)

MAA 6617 MEASURE AND INTEGRATION II (3)
PR: MAA 6616. Continuation of MAA 6616.

MAA 6618 MEASURE AND INTEGRATION III (3)
PR: MAA 6617. Continuation of MAA 6617.

MAD 5305 INTRODUCTION TO GRAPH THEORY (3)
PR: CC. Brief introduction to classical graph theory (4-color conjecture, etc.), directed graphs, connected digraphs, condensations, incidence matrices, Poly'a's Theorem, networks.

MAD 6407 ANALYSIS OF NUMERICAL METHODS I (3)

MAD 6408 ANALYSIS OF NUMERICAL METHODS II (3)
PR: MAD 6407. Continuation of MAD 6407.

MAD 6510 ANALYSIS OF ALGORITHMS I (3)
PR: MAD 4401 or MAD 6625 or MAD 6407. Mathematical Theory associated with algorithms for computer information processing; expected time and space requirements of algorithms, comparison of algorithms, construction of optimal algorithms, theory, underlying particular algorithms.

MAD 6511 ANALYSIS OF ALGORITHMS II (3)
PR: MAD 6510. Continuation of MAD 6510.

MAD 6616 ADVANCED ALGEBRA I (4)
PR: MAS 5312 or CC. Algebraic automata theory.

MAD 6617 ADVANCED ALGEBRA II (4)
PR: MAD 6616 or CC. Algebraic coding theory.

MAD 6625 MATRIX COMPUTATIONS (3)
PR: MAP 5407 or MAS 5146 or CC. Computer algorithms for solving linear equations and inequalities; computation of eigenvalues and eigenvectors, matrix functions; least squares computations. Efficiency and accuracy analyses.

MAE 5872 GEOMETRY FOR TEACHERS (3)
PR: MTTG 4212 and MTTG 4213 and bachelor's degree or CC. Vectors, measures, perpendicularity and parallelism, properties of geometric figures, induction and deduction. (No credit for Mathematics majors.)

MAE 5874 ABSTRACT ALGEBRA FOR TEACHERS (3)
PR: MAS 3103 and MAS 4301 and bachelor's degree or CC. Groups, fields, vector spaces as they relate to high school algebra and geometry. (No credit for Mathematics majors.)

MAE 5875 COMPLEX VARIABLES FOR TEACHERS (3)
PR: MAC 3414 and MAS 4301 and bachelor's degree or CC. Algebra and geometry of the complex numbers, functions of a complex variable, limits, derivatives, integrals, elementary functions and their geometry, fundamental theorem of algebra. (No credit for Mathematics majors.)

MAE 5876 MATHEMATICAL ANALYSIS I FOR TEACHERS (3)
PR: MAC 3414 and bachelor's degree or CC. Advanced consideration of limits continuity, derivatives, differentials. (No credit for Mathematics majors.)

MAE 5877 MATHEMATICAL ANALYSIS II FOR TEACHERS (3)
PR: MAE 5876 or CC. Advanced considerations of the definite integral, fundamental theorem of calculus, infinite series. (No credit for Mathematics majors.)

GRADUATE COURSES

MFE 3102 SET THEORY (3)
PR: MAC 3411 or CC. Relations, functions, order, cardinal numbers.

MFE 3204 INFORMAL GEOMETRY (4)
Concepts of length, congruence, similarity, transformations in the plane. Ruler and compass constructions, impossible constructions, coordinate systems, graphs, lines and curves. (Open only to Elementary Education majors.)

MFE 4212 GEOMETRY I (3)
PR: MAC 3411. Emphasis on axiomatics, advanced Euclidean geometry, elements of projective geometry, non-Euclidean geometries.

MFE 4213 GEOMETRY II (3)
PR: MTG 4212. Continuation of MTG 4212.

STA 3023 INTRODUCTORY STATISTICS I (5)
Hypothesis testing, estimation; normal, Chi-square, t, F, binomial, multinomial, distributions; ANOVA, CR, RCB designs; single df, regression, correlation, contingency tables. Students who successfully complete this course may not also receive credit for either ECO 4402 and GEB 3121 or STA 3122 (No credit for Mathematics Majors.)

STA 3024 INTRODUCTORY STATISTICS II (5)
PR: STA 3023 or CC. Factorials, ANCOV; multiple curvilinear regression; response surfaces; Latin square, Split Plots, incomplete blocks designs; distribution free methods.

STA 3404 ELEMENTARY PROBABILITY (4)
Counting techniques, probability, expectation, probability distributions, the law of large numbers. (No credit for Mathematics majors. Credit for Department of Biology majors.)

STA 4321 INTRODUCTION TO STATISTICS (4)

STA 4442 INTRODUCTION TO PROBABILITY (4)
PR: MAC 3414, MIFE 3102. Introduction to probability theory using calculus. Basic ideas of probability and random variables, discrete probability functions, continuous probability densities including normal, gamma, $x^2$, and Weibull, and transformations of random variables.
MAP 5205 MATHEMATICAL OPTIMIZATION THEORY I

MAP 5316 INTERMEDIATE DIFFERENTIAL EQUATION I

MAP 5317 INTERMEDIATE DIFFERENTIAL EQUATION II
PR: MAP 5316. Topics selected from oscillation and comparison theorems, stability and asymptotic behavior, perturbation theory, nonlinear theory, special functions.

MAP 5345 APPLIED PARTIAL DIFFERENTIAL EQUATIONS
PR: MAP 4302 and CC. Separation of variables, the heat equation, wave equation, Laplace's equation, classification, Green's functions, with emphasis on applications.

MAP 5407 METHODS OF APPLIED MATHEMATICS

MAP 6206 MATHEMATICAL OPTIMIZATION THEORY II

MAP 6207 MATHEMATICAL OPTIMIZATION THEORY III
PR: MAP 6206 or CC. Constrained optimization and search techniques; Kuhn-Tucker conditions. Topics from: Mathematical programming in abstract spaces, integer and stochastic programming.

MAP 6216 CALCULUS OF VARIATIONS
PR: MAA 5507 and CC. Maxima and minima of functionals, problems of Lagrange, Bolza and Mayer and other topics.

MAP 6236 THEORY OF ORDINARY DIFFERENTIAL EQUATIONS I
PR: MAP 5316 or MAP 5407 or CC. Advanced topics selected from: existence and uniqueness theory, singularity theory, asymptotics and stability, eigenfunctions, perturbations, topological methods.

MAP 6337 THEORY OF ORDINARY DIFFERENTIAL EQUATIONS II
PR: MAP 6336. Continuation of MAP 6336.

MAP 6356 PARTIAL DIFFERENTIAL EQUATIONS I
PR: MAP 5345 or CC. Classification of second order equations, Cauchy problems, Dirichlet and Neumann problems, mixed problems, properties of solutions.

MAP 6357 PARTIAL DIFFERENTIAL EQUATIONS II
PR: MAP 6356. Continuation of MAP 6356.

MAP 6375 NUMERICAL TECHNIQUES FOR PARTIAL DIFFERENTIAL EQUATIONS

MAP 6449 ASYMPTOTIC METHODS
PR: MAA 5403 or MAA 5405, MAP 5316 or MAP 5407. Asymptotic series, applications to differential equations and integrals, and perturbation theory.

MAP 6456 TRIGONOMETRIC SERIES I
PR: MAA 5307. Selected Topics in Fourier Series and summability, orthogonal polynomials, almost periodic functions, completeness of sets of functions.

MAP 6457 TRIGONOMETRIC SERIES II
PR: MAP 6456. Continuation of MAP 6456.

MAS 5146 ADVANCED LINEAR ALGEBRA
PR: MAS 3103, MHF 3102 or CC. Vector spaces, linear independence, dimensions, matrices, linear transformations.

MAS 5215 NUMBER THEORY
PR: CC. Congruences, quadratic residues, selected topics.

MAS 5311 ALGEBRA I
PR: MAC 3414, MAS 5146, MHF 3102. An introduction to group theory.

MAS 5312 ALGEBRA II
PR: MAS 5311. An introduction to Galois theory.

MAS 6218 TOPICS IN NUMBER THEORY I
PR: MAS 5312 or CC. Continued fractions, approximations of irrational numbers, lattices, geometric theory, algebraic numbers, density of sequences of integers, analytic number theory, the prime number theorem.

MAS 6219 TOPICS IN NUMBER THEORY II
PR: MAS 6218. Continuation of MAS 6218.

MAS 6226 ALGEBRAIC NUMBER THEORY
PR: MAS 5312 or CC. Algebraic number fields, algebraic integers, basic and discriminant of algebraic number fields, ideals, decomposition of ideals. Theorem of Minkowski, Applications of Galois Theory to the Theory of Ideals, Units.

MAT 5932 SELECTED TOPICS
PR: Senior or junior standing and CC. Each topic is a course of study. 01-History of Mathematics, 03-Logic and Foundations, 05-Number Theory, 07-Topics in Algebra, 09-Mathematics for Physics, 11-Topics in Probability and Statistics, 13-Topics in Analysis, 15-Topics in Topology.

MAT 6908 INDEPENDENT STUDY
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MAT 6911 DIRECTED RESEARCH
PR: GR. Master's level. Repeatable. (S/U only.)

MAT 6915 GRADUATE RESEARCH METHODS
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

MAT 6932 SELECTED TOPICS
PR: CC. 01-Topology, 02-Analysis, 03-Algebra, 04-Applied Mathematics, 05-Graph Theory, 06-Number Theory, 07-Mathematics for Physics, 08-Probability, 09-Statistics, 10-Complex Analysis.

MAT 6938 RECENT ADVANCES IN MATHEMATICS WITH EMPHASIS ON THEIR IMPACT ON COLLEGE-LEVEL COURSES
A course designed to consider and study the recent developments of mathematics, especially those developments that have an effect on altering the basic concepts and ideas of mathematics and imply a change in the presentation of introductory material in the field. (Credit not applicable toward thesis degree requirements.) (S/U only.)

MAT 6939 GRADUATE SEMINAR
Direction of this seminar is by a faculty member. Students are required to present research papers from the literature. (S/U only.)

MAT 6945 GRADUATE INSTRUCTION METHODS
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

MAT 6971 THESIS: MASTER'S
Repeatable. (S/U only.)

MAT 7912 DIRECTED RESEARCH
PR: GR. Ph.D. level. Repeatable. (S/U only.)

MAT 7980 DISSERTATION: DOCTORAL
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)
MEDICAL TECHNOLOGY

Director: E. D. Olsen; Professors: E. D. Olsen, W. S. Silver; Associate Professor: J. R. Linton; Assistant Professor: S. L. Vandoor.

UNDERGRADUATE COURSES

MLS 3031 INTRODUCTION TO MEDICAL TECHNOLOGY (1)
PR: Senior standing and acceptance into an approved affiliated hospital. An introduction to the principles and practices of medical technology and their relationship to patient care. A hospital internship course for medical technology majors.

MLS 4216 CLINICAL MICROSCOPY II (5)
PR: Senior standing and acceptance into an approved affiliated hospital. A continuation of MLS 4215. A hospital internship course for medical technology majors.

MLS 4309 HEMATOLOGY (6)
PR: Senior standing and acceptance into an approved affiliated hospital. Lecture and laboratory instruction in the methods of study of hematological disorders. A hospital internship course for medical technology majors.
ANATOMY


BMS 6100 GROSS ANATOMY
PR: Admission to College of Medicine.

BMS 6110 MICROSCOPIC ANATOMY
PR: Admission to College of Medicine.

BMS 6150 NEUROANATOMY
PR: Admission to College of Medicine.

BMS 6160 ANATOMY SEMINAR
PR: Consent of Chairman, Department of Anatomy.

BMS 7170 REGIONAL ANATOMY I—Head and Neck
PR: Enrolled in College of Medicine.

BMS 7171 REGIONAL ANATOMY II—Thorax, Abdomen, Pelvis and Perineum
PR: Enrolled in College of Medicine.

BMS 7172 REGIONAL ANATOMY III—Extremities
PR: Enrolled in College of Medicine.

BMS 7174 MEDICAL DEVELOPMENT ANATOMY AND TERATOLOGY
PR: Enrolled in College of Medicine.

BMS 7175 ADVANCED NEUROANATOMY
PR: Enrolled in College of Medicine.

BMS 7176 ADVANCED MICROSCOPIC ANATOMY
PR: Enrolled in College of Medicine.

BMS 7177 APPLIED NEUROANATOMY
PR: Enrolled in College of Medicine.

GMS 6600C CORE COURSE IN HUMAN ANATOMY
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6609 ADVANCED HUMAN GROSS ANATOMY
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6608 ADVANCED MICROSCOPIC ANATOMY
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6601 METHODS OF ELECTRON MICROSCOPY IN MEDICAL RESEARCH
PR: 6600-GMS 6300, GMS 6608, GMS 6602 or consent of Chairman.

GMS 6602 NEURAL CORRELATES OF BEHAVIOR
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6603 COMPARATIVE NEUROANATOMY
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6604 HUMAN EMBRYOLOGY
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6605 COMPARATIVE HEMATOLOGY
PR: GMS 6600-GMS 6609, 6608 or consent of Chairman.

GMS 6606 ANATOMICAL ILLUSTRATIONS AND METHODS
PR: GMS 6600-GMS 6300, GMS 6609, 6608 or consent of Chairman.

GMS 6607 HISTORY OF ANATOMY
PR: GMS 6600-GMS 6300 or consent of Chairman.

BIOCHEMISTRY


BMS 6200 BIOCHEMISTRY
PR: Admission to College of Medicine.

BMS 6230 BIOCHEMISTRY SEMINAR
PR: Consent of Instructor.

BMS 7260 RESEARCH IN BIOCHEMISTRY
PR: Enrolled in College of Medicine.

BMS 7262 MOLECULAR BASIS OF METABOLIC REGULATION
PR: Admitted to College of Medicine.

GMS 6200C CORE COURSE IN MEDICAL BIOCHEMISTRY
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6103 METABOLIC BASIS OF DISEASE
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6414 BIOLOGICAL MEMBRANES—STRUCTURE AND FUNCTION
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6415 LIPID METABOLISM AND REGULATION
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6416 MACROMOLECULAR METABOLISM
PR: GMS 6600-GMS 6300 or consent of Chairman.

Comprehensive Medicine


MEI 8206 BASIC EPIDEMIOLOGY FOR MEDICAL STUDENTS
Family Medicine


MEL 7255 OUT-PATIENT FAMILY MEDICINE (var.)
PR: Enrolled in College of Medicine.

MEL 7256 IN-PATIENT FAMILY MEDICINE (var.)
PR: Enrolled in College of Medicine.

BCC 8171 FAMILY PRACTICE PRECEPTORSHIP (var.)
PR: Enrolled in College of Medicine.

BCC 8172 ADVANCED FAMILY MEDICINE (var.)

Interdisciplinary

MEL 7320 EXTRAMURAL CLERKSHIP (var.)
PR: Enrolled in College of Medicine.

MEL 7102 PERINATOLOGY (var.)
PR: Enrolled in College of Medicine.

MEL 7103 PEDIATRIC CARDIOLOGY AND PHYSIOLOGY (var.)
PR: Enrolled in College of Medicine.

MEL 7105 RESEARCH AND CLINICAL EXPERIENCE IN ALLERGY (var.)
PR: Enrolled in College of Medicine.

MEL 7104 DEPARTMENTAL OVERVIEWS (var.)
PR: Enrolled in College of Medicine.

BCC 9180 AMBULATORY CARE ROTATION (var.)

GMS 7418 DIRECTED RESEARCH (var.)
PR: Gr. Ph.D. level. Repeatable. (S/U only.)

GMS 7930 SELECTED TOPICS (1-4)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 7939 GRADUATE SEMINAR (1)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 7980 DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Internal Medicine


BMS 6810 INTRODUCTION TO MEDICINE (var.)
PR: Admission to College of Medicine.

BMS 6830 PHYSICAL DIAGNOSIS (var.)
PR: Admission to College of Medicine.

BCC 6110 MEDICINE CLERKSHIP (var.)
PR: Admission to College of Medicine.

MEL 7303 ELECTRO-CARDIOGRAPHIC INTERPRETATION (var.)
PR: Enrolled in College of Medicine.

MEL 7321 CLINICAL DERMATOLOGY (var.)
PR: Enrolled in the College of Medicine.

MEL 7305 CLINICAL ENDOCRINOLOGY AND METABOLISM (var.)
PR: Enrolled in College of Medicine.

MEL 7306 GASTROENTEROLOGY ELECTIVE (var.)
PR: Enrolled in College of Medicine.

MEL 7310 INFECTIOUS DISEASE (var.)
PR: Enrolled in College of Medicine.

MEL 7313 CLINICAL NEPHROLOGY (var.)
PR: Enrolled in College of Medicine.

MEL 8308 HEMATOLOGY-ONCOLOGY (var.)

BCC 8121 CLINICAL NEUROLOGY CLERKSHIP (var.)

MEL 8675 CONCEPTS OF NEUROLOGICAL DISEASE (var.)

MEL 8676 NEUROLOGY OF AMBULATORY PATIENTS (var.)

MEL 8334 ACTING MEDICINE INTERNSHIP (var.)

MEL 8335 ELECTIVE IN AMBULATORY INTERNAL MEDICINE (var.)

MEL 8315 ALLERGY AND CLINICAL IMMUNOLOGY (var.)

MEL 8336 AMBULATORY CARE ELECTIVE-ENDOCRINOLOGY AND METABOLISM (var.)

MEL 8302 CLINICAL CARDIOLOGY (VA) I (var.)

MEL 8337 CLINICAL CARDIOLOGY (TGH) II (var.)

MEL 8338 HEMATOLOGY-ONCOLOGY II (var.)

MEL 8339 CLINICAL RHEUMATOLOGY ELECTIVE (var.)

MEL 8388 RESEARCH IN RHEUMATOLOGY IMMUNOLOGY (var.)

Medical Microbiology


BMS 6300 MEDICAL MICROBIOLOGY (var.)
PR: Admission to College of Medicine.

BMS 6320 MEDICAL MICROBIOLOGY SEMINAR (0)
PR: Consent of Chairman, Department of Medical Microbiology.

BMS 7360 CLINICAL MICROBIOLOGY (var.)
PR: Enrolled in College of Medicine.

GMS 6100C CORE COURSE IN MEDICAL MICROBIOLOGY (7)
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6101 DIAGNOSTIC MICROBIOLOGY (4)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6102 RESEARCH PLANNING AND METHODS (4)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6104 CELLULAR IMMUNOLOGY (4)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6105 ADVANCES IN IMMUNOLOGY (3)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6106 IMMUNOCHEMISTRY (4)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6107 ADVANCES IN VIROLOGY (3)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6108 MICROBIAL PHYSIOLOGY AND GENETICS (3)
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6109 REGULATORY CONTROL MECHANISMS IN ANIMAL CELL SYSTEMS (3)
PR: GMS 6600-GMS 6300 or consent of Chairman.
GMS 6110 HOST-PARASITE INTERACTIONS (3)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6417 ANIMAL RESEARCH METHODS (4)  
PR: GMS 6600-GMS 6300 or consent of Chairperson.

Obstetrics/Gynecology
Chairperson: J. M. Ingram; Professors: D. Cavanagh, J. M. Ingram;  
Associate Professor: W. R. Anderson; Assistant Professors: P. J.  

BCC 6130 OBSTETRICS-GYNECOLOGY CLERKSHIP (var.)  
PR: Admission to College of Medicine.

MEL 7404 GYNECOLOGIC ONCOLOGY (var.)  
PR: Admission to College of Medicine.

MEL 7440 RESEARCH IN OBSTETRICS-GYNECOLOGY (var.)  
PR: Admission to College of Medicine.

MEL 7411 PREPARATION FOR PRACTICE (var.)  
PR: Admission to College of Medicine.

MEL 7410 THE INFERTILE COUPLE (var.)  
PR: Admission to College of Medicine.

Ophthalmology
Chairperson: W. C. Edwards; Professors: W. Biersdorf, W. C. Edwards;  
Associate Professor: W. E. Layden; Assistant Professors: W.  
S. Grizzard, R. J. Gstalder, H. Kolodner, J. J. Older, L. D. Perry,  
E. Torczynski.

MEL 7503 TUTORIAL COURSE OF ADVANCED OPHTHALMOLOGY (var.)  
PR: Admission to College of Medicine.

MEL 7501 MEDICAL OPHTHALMOLOGY (var.)  
PR: Admission to College of Medicine.

MEL 8524 OPHTHALMIC RESEARCH (var.)  
PR: Admission to College of Medicine.

Pathology
Chairperson: R. G. Mason; Professors: H. A. Azar, J. U. Balis, P.  
Byvoet, D. G. Halkias, R. G. Mason; Assistant Professors: H.  
Richman, S. A. Shelley, T. Y. Wang; Assistant Research Scientists:  

GMS 6111 HUMAN SYSTEMIC PATHOLOGY (4)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6112 BIOCHEMICAL PATHOLOGY (3)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6113 IMMUNOPATHOLOGY (3)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6300C CORE COURSE IN PATHOLOGY (7)  
PR: Admission to the Ph.D. Program in Medical Sciences.  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6301 ADVANCED GROSS PATHOLOGY (2)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6302 ADVANCED MICROSCOPIC PATHOLOGY (2)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6303 ELECTRON MICROSCOPY OF DISEASE STATES (3)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6304 AUTORADIOGRAPHIC TECHNIQUES (2)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

Pediatrics
Chairperson: L. A. Barness; Professors: L. A. Barness, A. W. Root;  
Associate Professors: L. Cimino, J. S. Curran, J. A. Hallock, J. M.  
Judisch, J. I. Malone; Assistant Professors: S. Brodsky, R. M.  
Cavanaugh, Jr., J. M. Cupoli, P. W. DeVoe, R. J. Fernandez, E.  

BCC 6142 PEDIATRICS CLERKSHIP (var.)  
PR: Admission to College of Medicine.

MEL 7551 INPATIENT PEDIATRICS, TAMPA GENERAL HOSPITAL (var.)  
PR: Enrolled in College of Medicine.

MEL 7565 NEONATOLOGY (var.)  
PR: Enrolled in College of Medicine.

MEL 7591 RESEARCH IN PEDIATRIC MEDICINE AND GENETICS (var.)  
PR: Enrolled in College of Medicine.

MEL 7596 METABOLIC DISEASE RESEARCH (var.)  
PR: Enrolled in College of Medicine.

MEL 8555 ALL CHILDREN'S HOSPITAL (var.)  
MEL 8566 PEDIATRIC ENDOCRINOLOGY CLINICAL (var.)

MEL 8567 PEDIATRIC PRACTICE (var.)

MEL 8568 PEDIATRIC HEMATOLOGY-ONCOLOGY (var.)

MEL 8569 PEDIATRIC NEUROLOGY (var.)

MEL 8570 GENETICS ELECTIVE (var.)

MEL 8590 NEONATAL RESEARCH (var.)

MEL 8595 PEDIATRIC ENDOCRINE RESEARCH (var.)

Pharmacology
Chairperson: A. Szentivanyi; Professors: D. L. Smith, A. Szentivanyi;  
Associate Professors: D. F. Fitzpatrick, J. J. Kranowski,  
Jr., J. B. Polson; Assistant Professors: J. F. Hackney, J. R. Wiggins,  
J. F. Williams.

BMS 6400 PHARMACOLOGY (var.)  
PR: Admission to College of Medicine.

BMS 6420 PHARMACOLOGY SEMINAR (0)  
PR: Consent of Chairman, Department of Pharmacology.

BMS 6469 AUTONOMIC PHARMACOLOGY (var.)  
PR: GMS 6600C-GMS 6300C or Cl. Designed to provide an  
extensive discussion of the biochemical and physiologic basis of  
current concepts in autonomic pharmacology.

BMS 7462 PULMONARY PHARMACOLOGY (var.)  
PR: Enrolled in College of Medicine.

BMS 7463 DRUG METABOLISM AND PHARMACOCENETICS (var.)  
PR: Enrolled in College of Medicine.

GMS 6500C CORE COURSE IN PHARMACOLOGY (7)  
PR: Admission to Ph.D. program in Medical Sciences.

GMS 6501 THEORETICAL PHARMACOLOGY (5-10)  
PR: BMS 6600-GMS 6300 or consent of Chairman.

GMS 6502 CLINICAL PHARMACOLOGY (5-10)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6503 PHARMACOLOGY LABORATORY (2-4)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6504 IMMUNOPHARMACOLOGY (3-6)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6505 PHARMACOLOGY OF BACTERIAL PRODUCTS (4-8)  
PR: GMS 6600-GMS 6300 or consent of Chairman.

GMS 6506 THE PHARMACOLOGY OF BIOLOGICAL MEMBRANES (4-8)  
PR: GMS 6600-GMS 6300 or consent of Chairman.
252 MEDICINE

GMS 6507 DRUG METABOLISM
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6508 DRUG ADDICTION, TOLERANCE AND PHYSICAL DEPENDENCE
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6509 THE HISTORY OF PHARMACOLOGICAL THOUGHT
PR: GMS 660-GMS 6300 or consent of Chairman.

Physiology

BMS 6500 MEDICAL PHYSIOLOGY
PR: Admission to College of Medicine

BMS 6530 PHYSIOLOGY SEMINAR
PR: Consent of Chairman, Department of Physiology.

BMS 7560 RESEARCH IN PHYSIOLOGY
PR: Enrolled in College of Medicine.

BMS 7561 CARDIO-PULMONARY-RENAL PHYSIOLOGY
PR: Enrolled in College of Medicine.

GMS 6400C CORE COURSE IN PHYSIOLOGY
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6401 KIDNEY, FLUIDS AND ELECTROLYTES
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6402 RESPIRATION
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6403 ENDOCRINE MECHANISMS
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6404 NEUROPHYSIOLOGY
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6405 NERVE, MUSCLE AND SYNAPSE
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6406 CARDIAC MUSCLE
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6407 SMOOTH MUSCLE
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6408 SKELETAL MUSCLE
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6409 PERIPHERAL CIRCULATION
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6410 CARDIOVASCULAR REGULATION
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6411 CARDIOPULMONARY CIRCULATION
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6412 HEMODYNAMICS
PR: GMS 660-GMS 6300 or consent of Chairman.

GMS 6413 PHYSIOLOGICAL BASIS OF CARDIOLOGY
PR: GMS 660-GMS 6300 or consent of Chairman.

Psychiatry

BMS 6840 INTRODUCTION TO PSYCHIATRY
PR: Admission to College of Medicine.

BMS 6850 PSYCHIATRY SEMINAR
PR: Consent of Chairman, Department of Psychiatry.

BMS 6880 BIOSTATISTICS
PR: Admission to College of Medicine.

BCC 6150 PSYCHIATRY CLERKSHIP
PR: Admission to College of Medicine.

MEL 7602 ELECTIVE IN CHILD PSYCHIATRY
PR: Enrolled in College of Medicine.

MEL 7607 INTRODUCTION TO PSYCHOSOMATIC MEDICINE
PR: Enrolled in College of Medicine.

MEL 7611 ADVANCED CLERKSHIP IN PSYCHIATRY
PR: Enrolled in College of Medicine.

MEL 8664 PSYCHIATRIC RESEARCH
PR: Enrolled in College of Medicine.

Radiology

MEL 7700 GENERAL RADIOLOGY
PR: Enrolled in College of Medicine.

Surgery

BCC 6110 SURGERY CLERKSHIP
PR: Admission to College of Medicine.

MEL 7760 ANESTHESIOLOGY ELECTIVE
PR: Enrolled in College of Medicine.

MEL 7800 GENERAL SURGERY ELECTIVE
PR: Enrolled in College of Medicine.

MEL 7801 GENERAL SURGERY PRECEPTORSHIP
PR: Enrolled in College of Medicine.

MEL 7806 PLASTIC SURGERY PRECEPTORSHIP
PR: Enrolled in College of Medicine.

MEL 7807 THORACIC SURGERY ELECTIVE
PR: Enrolled in College of Medicine.

MEL 7812 NEUROSURGERY ELECTIVE
PR: Admission to College of Medicine.

MEL 7813 OTOLARYNGOLOGY ELECTIVE
PR: Enrolled in College of Medicine.

MEL 7816 OTOLARYNGOLOGY PRECEPTORSHIP
PR: Enrolled in College of Medicine.

MEL 7817 ORTHOPEDIC ELECTIVE
PR: Third year student enrolled in College of Medicine.

MEL 7822 CLINICAL UROLOGY ELECTIVE
PR: Enrolled in College of Medicine.
MILITARY SCIENCE

UNDERGRADUATE COURSES

MIS 1010C INTRODUCTION TO MILITARY SCIENCE
(4)

MIS 3410C FUNDAMENTALS OF LEADERSHIP
(4)
PR: AMH 3540, MIS 1010C, or CI. The dual role of the military officer as leader and manager; problems of military leadership in the volunteer army; examination of classical leadership traits and principles, and the role of officers in the various branches of the Army.

MUSIC


UNDERGRADUATE COURSES

MUC 2202 COMPOSITION
(3)
PR: MUT 1113 and CI. Private instruction in original composition with composition lab meeting 5 times each quarter. Required of composition majors. May be repeated for four quarters.

MUC 2301 INTRODUCTION TO ELECTRONIC MUSIC
(3)
History and repertory of electronic music; standard sound studio techniques; basic electronics as applied in electronic sound synthesis; mathematics for music, composition and electronic music.

MUC 3203 COMPOSITION
(3)
PR: Necessary competency at MUC 2202 level determined by faculty jury. Private instruction in original composition with composition lab meeting 5 times each quarter. Required of composition majors. May be repeated for four quarters.

MUC 3401,3402,3403 ELECTRONIC MUSIC—ANALOG SYNTHESIS
(3,3,3)
PR: MUC 2301 and CI. Composition for tape medium with analog synthesizers; use of sound recording studio; repertory or analog music synthesis; technical basis of analog systems design and construction.

MUC 3441,3442,3443 ELECTRONIC MUSIC—DIGITAL SYNTHESIS
(3,3,3)
PR: MUC 2301 and CI. Computer assisted composition for conventional instruments; composition for tape medium with computer controlled analog synthesizers; direct digital synthesis; digital systems design and construction.

MUC 3601,3602,3603 CONTEMPORARY TECHNIQUES OF COMPOSITION
(3,3,3)
PR: CI. Instruction in the use of major Twentieth-Century compositional techniques; tonal, unordered set, and serial composition and the use of indeterminacy in composition and performance.

MUC 4204 COMPOSITION
(3)
PR: Necessary competency at MUC 3203 level determined by faculty jury. Private instruction in original composition with composition lab meeting 5 times each quarter. Required of composition majors. Must be repeated for credit for a minimum of 9 hours for majors.

MUC 4405,4406,4407 ELECTRONIC MUSIC—REAL-TIME PERFORMANCE
(3,3,3)
PR: MUC 3403 and MUC 3443 or equivalent. Composition for analog and digital equipment for real-time performance applications; sound synthesis, interfacing electronics with conventional instruments, in-performance-directed composition, and design and construction of electronic composing/performance machines; use of scores, system flexibility and event-detail prediction.

MUC 4501 SEMINAR IN NEW MUSICAL SYSTEMS
(3)
PR: CI. Experimental sound sources and ensemble groupings: creating of new instruments; unfamiliar sonic materials and unique social contexts for music. May be repeated for credit.

MUC 3010 BASIC CONDUCTING
(2)
PR: CI. The study and practical application of basic conducting techniques. Development of skills related to the conducting of musical scores.

MUC 4201 CHORAL CONDUCTING
(2)
PR: MUC 3101 or its equivalent and CI. Practical application of conducting techniques to choral works, score study, performance practices, and rehearsal techniques. Class serves as performing group.

MUC 4301 INSTRUMENTAL CONDUCTING
(2)
PR: MUC 3101 & CI. A study of those techniques of conducting unique to instrumental music ensembles: Baton technique, score reading, terminology, rehearsal management.

MUC 3016 HISTORY OF POPULAR MUSIC
(2)
Popular music in the U.S. from 1820 to the present. Unis on the big band era, country and western, jazz, black music, and the rock scene beginning in 1955. May be used for University General Distribution Requirements and may be used to satisfy part of the 9 hours in-College Requirement for Fine Arts majors in Art, Dance, Theatre and as a music elective.

MUC 3211,3212,3213 MUSIC HISTORY
(3,3,3)
PR: CI. Required of music majors; a survey of the historical development of musical styles and of the music representative of those styles.

MUL 2111,2112,2113 INTRODUCTION TO MUSIC LITERATURE
(2,2,2)
PR: MUT 1113 or CI. A survey of representative music exemplars of the past and present with emphasis on the study of styles and form. Required for music majors.

MUL 3001 ISSUES IN MUSIC
(2)
Open only to non-music majors; lectures and live performances by artist faculty of significant works from the literature for the piano; analysis and illustration in performance of the abstract and aesthetic elements in music which vitally concern the artist-performer. This course is also available on WUSF-TV Channel 16 by the O.U. Program. (S/U only.)
MUL 3011,3012 THE ENJOYMENT OF MUSIC (3,3)
Open only to non-music majors; a study in the art of music and its materials, designed to develop an understanding of basic principles of music and a technique for listening to music.

MAJOR PERFORMING ORGANIZATIONS COURSES (below)
PR: CI. Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments; may be repeated for credit.

MUN 3100 UNIVERSITY BAND (1)
MUN 3140 WIND ENSEMBLE (1)
MUN 3210 UNIVERSITY ORCHESTRA (1)
MUN 3310 UNIVERSITY SINGERS (1)
MUN 3380 UNIVERSITY-COMMUNITY CHORUS (1)
MUN 3390 JAZZ-Pop CHOIR (1)
MUO 3501 OPERA WORKSHOP (1)

CHAMBER MUSIC ENSEMBLES COURSES (below)
PR: CI. Open to all university 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; may be repeated for credit.

MUN 3340 CHAMBER SINGERS (1)
MUN 3411 STRING QUARTET (1)
MUN 3421 FLUTE CHORUS (1)
MUN 3423 CLARINET CHORUS (1)
MUN 3426 WOODWIND QUINTET (1)
MUN 3430 BRASS CHORUS (1)
MUN 3432 HORN QUARTET (1)
MUN 3436 BRASS QUINTET (1)
MUN 3440 PERCUSSION ENSEMBLE (1)
MUN 3441 MARIMBA ENSEMBLE (1)
MUN 3451 PIANO ENSEMBLE (1)
MUN 3470 COLLEGIUM MUSICUM (1)
MUN 3490 NEW MUSIC ENSEMBLE (1)
MUN 3710 JAZZ LABORATORY BAND (1)

MUS 4900 DIRECTED READING (1-4)
PR: CI and CC. Readings in a topic of special interest to the student. Selection of topic and materials must be agreed upon and appropriate credit must be assigned prior to registration. A contract with all necessary signatures is required for registration. May be repeated for credit for different topics only.

MUS 4905 DIRECTED STUDY (1-6)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUS 4930 SELECTED TOPICS IN MUSIC (1-6)
PR: CI and CC. The content of the course will be governed by student demand and instructor interest. May be repeated for credit for different topics only.

MUS 4931 SELECTED STUDIO TOPICS IN MUSIC (1-6)
PR: CI. The content of the study will be governed by individual student demand and instructor interest with an emphasis on individual instruction.

MUS 4935 MUSIC SENIOR SEMINAR (3)
PR: CI. To aid majors to understand, appraise and perfect their own art through critical and aesthetic judgments of their colleagues. (S/U only).

MUT 1001 RUDIMENTS OF MUSIC (3)
Open to non-music majors; development of skills in hearing and performing music and in basic notation, will not count as degree credit for music majors.

MUT 1111,1112,1113 MUSIC THEORY (3,3,3)
PR: CI. Required of music majors; development of skills in perceiving and writing music through the use of aural and visual analysis of examples from all historical periods of music literature.

MUT 1241,1242,1243 AURAL THEORY (2,2,2)
PR: CI. Course designed to begin training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing. To be taken concurrently with MUT 1111, 1112, 1113.

MUT 2116,2117,2118 MUSIC THEORY (3,3,3)
PR: MUT 1113. Required of music majors; continuation of MUT 1111-1113.

MUT 2246,2247,2248 ADVANCED AURAL THEORY (2,2,2)
PR: MUT 1243. Course designed to continue training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing. To be taken concurrently with MUT 2116, 2117, 2118.

IMPROVISATION COURSES (below)
PR: MUT 1113 and CI. A studio course of study designed to acquaint the student with basic improvisational techniques; emphasis on individual performance. May be repeated for credit.

MUT 3631 IMPROVISATION: FUNDAMENTAL TECHNIQUES (1)

MUT 3642 IMPROVISATION: JAZZ TECHNIQUES (1)

MUT 4311,4312 ORCHESTRATION (3,3)
PR: CI. Intensive study and practice in scoring music for various combinations of instruments, including symphony orchestra, band, and smaller ensembles of string, woodwind, brass, and percussion instruments.

MUT 4411 SIXTEENTH CENTURY PRACTICE (3)
PR: MUT 2118. A study of the music of the 16th century from a theoretical standpoint; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

MUT 4421 EIGHTEENTH CENTURY PRACTICE (3)
PR: MUT 2118. An intensive study of the contrapuntal practice of the 18th century; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

MUT 4431 TWENTIETH CENTURY PRACTICE (3)
PR: MUT 2118. A study of 20th century theoretical concepts; development of skills in perceiving and writing music in contemporary styles through the use of aural and visual analysis.

SECONDARY APPLIED MUSIC COURSES (below)
PR: CI. One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of non-music majors who have had prior musical training. Course is open by audition only.

MVB 1211 APPLIED TRUMPET (1)
MVB 1212 APPLIED FRENCH HORN (1)
MVB 1213 APPLIED TROMBONE (1)
MVB 1214 APPLIED BARITONE (1)
MVB 1215 APPLIED TUBA (1)
MVK 1211 APPLIED VIOLONCELLO (1)
MVP 1211 APPLIED PERCUSSION (1)
MVS 1211 APPLIED VIOLIN (1)
MVS 1212 APPLIED VIOLA (1)
MVS 1213 APPLIED VIOLONCELLO (1)
MVS 1214 APPLIED DOUBLE BASS (1)
MVS 1215 APPLIED HARP (1)
MVV 1211 APPLIED VOICE (1)
MWV 1211 APPLIED FLUTE (1)
MWV 1212 APPLIED OBOE (1)
MWV 1213 APPLIED CLARINET (1)
MWV 1214 APPLIED BASSOON (1)
<table>
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<tr>
<td>MVW 2425</td>
<td>APPLIED SAXOPHONE</td>
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</table>

**CLASS PIANO COURSES (below)**

PR: CI. Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature.

<table>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<td>MVK 1121</td>
<td>MUSIC MAJORS, LEVEL II</td>
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<td>MUSIC MAJORS, LEVEL III</td>
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<td>MUSIC MAJORS, LEVEL IV</td>
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<td>MVK 2821</td>
<td>NON-MUSIC MAJORS, LEVEL IV</td>
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</table>

**APPLIED MUSIC COURSES (below)**

PR: CI. Required of all applied music majors; open to a limited number of non-music majors by audition only. Private and class instruction in string, woodwind, brass and percussion instruments, voice and piano. May be repeated for credit.

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<td>APPLIED FRENCH HORN</td>
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<td>MVW 1411</td>
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<td>MVW 1411</td>
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<td>MVW 1413</td>
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<td>MVW 1415</td>
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</table>

**APPLIED MUSIC COURSES (below)**

PR: Necessary competency at freshman level determined by faculty jury examination. Required of all applied music majors. Private and class instruction in string, woodwind, brass and percussion instruments, voice and piano. May be repeated for credit for a minimum of 9 hours for the same section.

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MVP 2421</td>
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</tr>
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</table>

**MUSIC STUDIO PEDAGOGY COURSES (below)**

PR: CI. May be elected by undergraduate music majors; emphasis on the business management of the music studio, the musical responsibilities of the studio teacher, the techniques of private instruction. May be repeated for credit for a maximum of 6 hours for the same section.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>MVB 4441</td>
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**MUSIC 255**

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<td>MVS 4442</td>
<td>APPLIED VIOLA</td>
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<tr>
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<td>APPLIED VIOLONCELLO</td>
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<td>MVS 4444</td>
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<td>MVW 4442</td>
<td>APPLIED FLUTE</td>
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<td>MVW 4443</td>
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<td>MVW 4445</td>
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<tr>
<td>MVW 4640</td>
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<td>MVW 4641</td>
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<tr>
<td>MVW 4640</td>
<td>WINDS AND PERCUSSION</td>
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</table>
GRADUATE COURSES

MUC 6251 COMPOSITION (4)
PR: Cl. Private instruction in original composition with composition lab meeting 5 times each quarter. Required of composition majors. May be repeated for four quarters.

MUC 6444,6445,6446 ELECTRONIC MUSIC—ANALOG/DIGITAL SYSTEMS RESEARCH (4,4,4)
PR: Cl. State-of-the-art compositional and performance applications; new concepts of electronic music synthesis; documentation and critical analysis of new repertory.

MUG 6256,6257,6258 CHORAL LITERATURE ANDconducting (6,6,6)
PR: Cl. Combination of seminar, classroom and laboratory types of experience designed to provide depth in stylistic study of choral music literature and performance.

MUG 6930 SEMINAR IN CONDUCTING (3)
PR: Cl. Intensive study of conducting techniques with emphasis on interpretation of music scores and application in laboratory sessions. Sec. 001 Choral; 002 Instrumental.

MUL 6375 TWENTIETH CENTURY MUSIC LITERATURE (4)
PR: Cl. A study of the literature, compositional techniques and musical philosophies of the major 20th Century composers from Debussy to the present.

MUL 6410,6411,6412 KEYBOARD REPERTORY (3,3,3)
PR: Cl. A study of style, history and performance practice in keyboard repertory including masterworks of all periods.

MUL 6505 SYMPHONIC LITERATURE (4)
PR: Cl. A chronological study of the development of orchestral music; analysis and study of major works from a stylistic and biographical perspective.

MUL 6565 CHAMBER MUSIC LITERATURE (4)
PR: Cl. A survey and stylistic analysis of chamber music repertory 1750 through the present day; emphasis on aural recognition of representative works.

MUL 6624,6625,6626 SONG LITERATURE (3,3,3)
PR: Cl. 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.

MUL 6663,6664 OPERA LITERATURE (4,4)
PR: Cl. A chronological study of the development of opera from 1600 to the present; emphasis on the technical, stylistic, and performance aspects of opera.

MUL 6687 SOLO VOCAL LITERATURE IN ORATORIO (4)
PR: Cl. A survey of literature for the solo voice in oratorio from the 17th century to the present. Includes allied forms such as solo voice in cantatas and orchestra music.

MAJOR ENSEMBLE PERFORMANCE COURSES (below)
PR: Cl. Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass or percussion instruments; may be repeated for credit.

MUN 6100 UNIVERSITY BAND (1)
MUN 6140 WIND ENSEMBLE (1)
MUN 6210 UNIVERSITY ORCHESTRA (1)
MUN 6310 UNIVERSITY SINGERS (1)
MUN 6380 UNIVERSITY-COMMUNITY CHORUS (1)
MUN 6390 CHORAL UNION (1)
MUN 6501 OPERA WORKSHOP (1)

CHAMBER MUSIC ENSEMBLES COURSES (below)
PR: Cl. 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; may be repeated for credit.

MUN 6340 CHAMBER SINGERS (1)
MUN 6411 STRING QUARTET (1)
MUN 6421 FLUTE QUARTET (1)
MUN 6423 CLARINET QUARTET (1)
MUN 6426 WOODWIND QUARTET (1)
MUN 6430 BRASS QUARTET (1)
MUN 6432 HORN QUARTET (1)
MUN 6436 BRASS QUINTET (1)
MUN 6440 PERCUSSION ENSEMBLE (1)
MUN 6441 MARIMBA ENSEMBLE (1)
MUN 6451 PIANO ENSEMBLE (1)
MUN 6470 COLLEGIUM MUSICUM (1)
MUN 6490 NEW MUSIC ENSEMBLE (1)
MUN 6710 JAZZ LABORATORY BAND (1)

MUS 5905 DIRECTED STUDY (1-6)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUSIC WORKSHOP COURSES (below)
PR: Cl. Intensive study in the specialized areas indicated below; open to teachers, University students, and secondary students; credit available to qualified students.

MUS 5924 BAND WORKSHOP (1-3)
MUS 5925 CHAMBER MUSIC WORKSHOP (1-3)
MUS 5926 CHORUS WORKSHOP (1-3)
MUS 5927 ORCHESTRA WORKSHOP (1-3)
MUS 5928 PIANO WORKSHOP (1-3)
MUS 5929 STRING WORKSHOP (1-3)

MUS 6793 TECHNIQUES OF RESEARCH IN MUSIC (3)
PR: CC. A study of the methods of research and professional bibliography and with an individual, formal project as a terminal requirement.

MUS 6906 INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MUS 6910 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

MUS 6971 THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

MUS 6976 GRADUATE RECITAL (3)
PR: CC.

MUS 6994 GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

MUS 6995 GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

MUT 5051 GRADUATE REVIEW OF MUSIC THEORY (3)
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 6535,6547,6558 CRITICAL ANALYSIS OF MUSIC REPERTORY (4,4,4)
PR: Cl. Required of music theory majors; study of the development of musical styles in western civilization from Antiquity to the present, includes analysis and performance of representative works.

MUT 6751,6752 TEACHING OF MUSIC THEORY (4,4)
PR: Cl. Comparative study of teaching techniques, procedures, and materials used in teaching the individual student in performance.
APPLIED MUSIC COURSES (below)
PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Private and class instruction.
MVV 6251 APPLIED TRUMPET, SECONDARY (2)
MVW 6252 APPLIED FRENCH HORN, SECONDARY (2)
MVW 6253 APPLIED TROMBONE, SECONDARY (2)
MVW 6254 APPLIED BARITONE, SECONDARY (2)
MVW 6255 APPLIED TUBA, SECONDARY (2)
MVW 6451 APPLIED TRUMPET (4)
MVW 6452 APPLIED FRENCH HORN (4)
MVW 6453 APPLIED TROMBONE (4)
MVW 6454 APPLIED BARITONE (4)
MVW 6455 APPLIED TUBA (4)
MVK 6251 APPLIED PIANO, SECONDARY (2)
MVK 6451 APPLIED PIANO (4)
MVP 6251 APPLIED PERCUSSION, SECONDARY (2)
MVP 6451 APPLIED PERCUSSION (4)
MVS 6251 APPLIED VIOLIN, SECONDARY (2)
MVS 6252 APPLIED VIOLA, SECONDARY (2)
MVS 6253 APPLIED VIOLONCELLO, SECONDARY (2)
MVS 6254 APPLIED DOUBLE BASS, SECONDARY (2)
MVS 6255 APPLIED HARP, SECONDARY (2)
MVS 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)
MVW 6251 APPLIED VOICE, SECONDARY (2)
MVW 6451 APPLIED VOICE (4)
MVW 6251 APPLIED FLUTE, SECONDARY (2)
MVW 6252 APPLIED OBOE, SECONDARY (2)
MVW 6253 APPLIED CLARINET, SECONDARY (2)
MVW 6254 APPLIED BASSOON, SECONDARY (2)
MVW 6255 APPLIED SAXOPHONE, SECONDARY (2)
MVW 6451 APPLIED FLUTE (4)
MVW 6452 APPLIED OBOE (4)
MVW 6453 APPLIED CLARINET (4)
MVW 6454 APPLIED BASSOON (4)
MVW 6455 APPLIED SAXOPHONE (4)

MASTER CLASS COURSES (below)
PR: CI. 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.
MVK 5751 PIANO, MASTER CLASS (2)
MVS 5750 STRINGS, MASTER CLASS (2)
MVS 5751 VOICE, MASTER CLASS (2)

STUDIO TEACHING SEMINAR (below)
PR: Graduate standing in performance and Cl; emphasis on techniques used in teaching the individual student in performance.
MVK 6650 STUDIO TEACHING SEMINAR-CLASS PIANO (3)
MVK 6651 STUDIO TEACHING SEMINAR-PIANO (3)
MVS 6650 STUDIO TEACHING-STRINGS (3)
MVS 6651 STUDIO TEACHING-VOICE (3)
MVS 6650 STUDIO TEACHING-WINDS AND PERCUSSION (3)

NURSING


UNDERGRADUATE COURSES
HUN 3201 NUTRITION (4)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. The study of normal and therapeutic nutrition for all age groups from infancy through senescence. Considers the effects of cultural, religious, and socioeconomic factors in defining and modifying food patterns of individuals and groups.
NUR 3410 COMMUNITY HEALTH RESOURCES (3)
PR: Admission to nursing major or permission of Dean. Study of health resources in the community including voluntary and official health agencies. Consideration will be given to preventive and maintenance services as well as to hospitals and other institutional components of medical care. Also, will consider the roles, responsibilities, and relationships of personnel in the various health occupations with whom nurses work. Instruction will be multidisciplinary with seminars and selected field work experience.
NUR 4910C INDEPENDENT STUDY (1-5)
PR: Open to majors and non-majors with faculty permission. Individual or group investigation of special problems relevant to the health of individuals or groups. Direct service to individuals or groups may be involved. Project requirements (e.g., oral and written reports, conferences, etc.) will be determined on an individual basis by faculty perceptrons. May be repeated up to a total of five quarter credit hours.
NUR 4930 SELECTED TOPICS IN NURSING (2-4)
PR: Junior or senior standing or permission of faculty. Content will depend upon student demand and faculty interest and may focus on any area relevant to nursing practice. May involve class, seminar, and/or clinical laboratory and may be repeated for different topics. (S/U only.)
NUR 4935 SEMINAR IN NURSING V (2)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Description same as NUU 3321, Seminar in Nursing I. (S/U only.)
NUR 4943C NURSING PRACTICUM III (5-7)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Individually planned experience in a clinical and/or functional area of professional nursing which is related to student’s professional goals. Associated seminars and/or institutes. (S/U only.)
NUR 4943L NURSING INTERVENTION IV (7)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. This final course, in a Nursing Intervention sequence of four, will provide opportunity for concentrated clinical nursing experience under faculty guidance. The nature and goals of the experience will be determined collaboratively by students, faculty, and personnel from the clinical settings where students elect to have this experience. (S/U only.)
NUS 3210C HUMAN ANATOMY (4)
PR: Admission to nursing major or permission of Dean. A course in basic human anatomy including cellular and organ system relationships as a foundation for normal and abnormal function. Lec.-lab.
NUS 3211C HUMAN PHYSIOLOGY (5)
PR: Admission to nursing major or permission of Dean. Basic functional features of the normal human body considered on a
NURSING

systematic basis. General content includes the cell and functional organization of the body, the function of the body systems, and limited attention to deviations from normal and application to nursing practice. Lec.-lab.

NUU 3220 BIOPSYCHOSOCIAL PATHOLOGY (4)
PR: Admission to nursing major or permission of Dean. Interferences in biopsychosocial organization and function and the ways in which disruptions manifest themselves in signs, symptoms, physical, and laboratory findings.

NUU 3121L NURSING PROCESS LABORATORY (5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. A student self-paced learning laboratory course directed toward development of competence in selected psychomotor and biopsychosocial assessment skills. Also, selected experiences in ambulatory care settings to facilitate application of assessment skills. (S/U only.)

NUU 3210C NURSING PROCESS I (6)
PR: Admission to nursing major or permission of Dean. An overview of the development of nursing and trends which will influence future practice. Attention will be directed to emerging roles and responsibilities of professional nurses in providing health services to individuals and families and relationships of nurses to clients and other health care personnel. Lecture-discussion sessions and extra-class activities including clinical nursing practice experience.

NUU 3211 NURSING CORE I (5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Nursing core courses are designed to enable progressive acquisition of concepts, knowledge, and skills essential to clinical nursing practice by building on previous general education, supporting and nursing courses. This sequence will be developed within the framework of the concepts of health to illness within the family. Content will include the family as a system, crises within the system, and developmental tasks throughout the life span.

The student will continue development of the nursing process with particular emphasis on the intervention and planning phases based on theory in pathophysiology, pharmacology, and epidemiology.

NUU 3211L NURSING INTERVENTION I (6)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. This course involves the application of theoretical material in a clinical setting that will include care of hospitalized and non-hospitalized individuals of all ages who represent various levels of wellness and illness. Opportunities are provided for continuing development of the skills in the nursing process.

NUU 3214 SEMINAR IN NURSING II (2)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Description same as NUU 3321, Seminar in Nursing I. (S/U only.)

NUU 3229L NURSING PRACTICUM I (5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Clinical practice providing experience in application of the nursing process with selected multi-problem clients in selected distributive and/or episodic care settings. (S/U only.)

NUU 3240 CONCEPTUAL FRAMEWORK FOR PROFESSIONAL NURSING PRACTICE (4)
PR: Admission to nursing major or permission of Dean. Exploration of the major concepts underlying professional nursing practice, the trends and issues relating to the role and responsibility of nursing in the health care system, and introduction to the nursing process.

NUU 3241C PLANNING, IMPLEMENTING, AND EVALUATING NURSING INTERVENTION (4)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Focuses on using assessment skills as basis for planning, implementing, and evaluating nursing intervention for multi-problem clients in both distributive and episodic settings.

NUU 3320 NURSING PROCESS II (3)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Restricted to nursing majors. An introduction to the nursing process with emphasis on the initial phase of assessment of the health status of individuals seeking care in ambulatory settings. Opportunities are provided for continuing development of group process and interviewing skills as tools in the assessment process in nursing. Learning experiences include the application of biopsychosocial concepts and the utilization of selected psychomotor skills in nursing intervention with non-hospitalized individuals.

NUU 3321 SEMINAR IN NURSING I (2)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. This seminar provides opportunities for students to correlate various learning experiences, to exchange experiences, and raise questions for group and faculty exploration. It serves as a vehicle for introducing nursing audit and peer review of nursing practice and as a means of dealing with the human problems characteristic of nursing practice. Issues, trends, legal aspects, management, and leadership principles will be considered within the framework of internal and external forces which structure nursing and determine its role in society. (S/U only.)

NUU 3340C CLIENT ASSESSMENT (5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Expands knowledge and skills essential for biopsychosocial assessment of needs of clients and families in primary, secondary, or tertiary care settings.

NUU 4220 NURSING CORE II (5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Continuing development of the nursing process with particular emphasis on the evaluation phase. Concepts of leadership and the role of the professional nurse as a change agent are emphasized.

NUU 4220L NURSING INTERVENTION II (6)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Application of theory in a clinical setting with clients of all ages who represent various levels of wellness and illness.

NUU 4221 NURSING CORE III (5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Students continue development of the nursing process with emphasis on synthesis of the four phases based on theory in pathophysiology, pharmacology, and epidemiology. Leadership concepts in the total nursing process introduced.

NUU 4221L NURSING INTERVENTION III (6)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Application of theoretical knowledge in a clinical setting that will include care of hospitalized and non-hospitalized individuals of all ages who represent various levels of wellness and illness. Provision made for the development of skills in the synthesis of all phases of nursing process as well as utilizing leadership concepts.

NUU 4222 SEMINAR IN NURSING III (2)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Description same as NUU 3321, Seminar in Nursing I. (S/U only.)

NUU 4223 SEMINAR IN NURSING IV (2)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Description same as NUU 3321, Seminar in Nursing I. (S/U only.)

NUU 4422 NURSING PROCESS SYNTHESIS (5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Continuation of NUU 3241C and NUU 3340C with emphasis on the leadership, teaching, and management responsibilities in professional nursing practice.

NUU 4422L NURSING PRACTICUM II (3-5)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Application of theories developed in NUU
The following courses are provided for students admitted in the Off-Campus Term Program to work on one of the types of projects indicated.

IDS 490S OFF CAMPUS PROJECT

Director: D. K. Lupton.

UNDERGRADUATE COURSES

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UNDERGRADUATE COURSES

The following courses are provided for students admitted in the Off-Campus Term Program to work on one of the types of projects indicated.

IDS 490S OFF CAMPUS PROJECT

Director: D. K. Lupton.

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IDS 490S OFF CAMPUS PROJECT

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PHI 4800 AESTHETICS (4)
A study of traditional and contemporary aesthetic theories with emphasis on creative process, the nature of the art work, the aesthetic response, expressiveness, form and content as well as art and morality.

PHI 4905 DIRECTED STUDY (1-5)
PR: CI. Individual study directed by a faculty member. Approval slip from instructor required.

PHI 4930 SELECTED TOPICS (1-5)
PR: CI. Selected topics according to the needs of the senior students. Approval slip from instructor required.

PHM 3100 SOCIAL PHILOSOPHY (4)
An analysis of rival theories of social order and their philosophical foundations.

PHM 3222 PHILOSOPHIES OF THE CITY (3)
A study of the current issues in the philosophy of the city including the nature of community, alienation and the city, art and the city, political philosophy of the city, the city and business, nature versus the city, the city and beauty, etc. For majors and non-majors.

PHM 3400 INTRODUCTION TO PHILOSOPHY OF LAW (4)
A study of the fundamental concepts of law from a philosophic standpoint including crime, justice, punishment, free speech, insanity, etc.

PHM 4322 ANCIENT AND MEDIEVAL POLITICAL PHILOSOPHY (3)
A survey of political philosophy from 6 B.C. until 1600 A.D., including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHM 4331 MODERN POLITICAL PHILOSOPHY (3)
A survey of political philosophy from 1600 A.D. until 1900 A.D., including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHM 4340 CONTEMPORARY POLITICAL PHILOSOPHY (3)
A survey of political philosophy in the twentieth century, including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHP 3786 EXISTENTIALISM (4)
A study of the religious and atheistic existentialists and the bearing of their views on religion, ethics, metaphysics, and theory of knowledge.

PHP 4000 PLATO (4)
PR: Eight hours of philosophy or CI. The examination of Plato will include the dialogues Protagoras, Gorgias, Meno, Republic, etc.

PHP 4010 ARISTOTLE (4)
PR: Eight hours of philosophy or CI. Study of Aristotle's philosophy.

PHP 4410 KANT (4)
PR: Eight hours of philosophy or CI. Lecture and discussions of Kant's philosophy, especially The Critique of Pure Reason.

PHP 4784 ANALYTICAL PHILOSOPHY (4)
PR: Eight hours of philosophy, PHI 3100. A study of the method devoted to clarifying philosophical problems through analysis of the language in which these problems are stated.

PHP 4788 PHILOSOPHY OF MARXISM (4)

GRADUATE COURSES

PHI 5005 SEMINAR IN THE HISTORY OF PHILOSOPHY (3)
PR: CI. A study of one or more of the central figures or movements in the history of philosophy. This course may be taken more than once for credit with CI and departmental approval.

PHI 5135 SYMBOLIC LOGIC (4)
PR: PHI 3100 or CI. Mathematical treatment of formal logic, including methods of proof, quantification, the logic of relations and an introduction to properties of deductive systems.

PHI 5225 PHILOSOPHY OF LANGUAGE (4)
PR: Eight hours of philosophy, major in linguistics, or CI. 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.

PHI 5325 SEMINAR IN EPISTEMOLOGY I (3)
PR: Major in philosophy or psychology and CI. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 5365 SEMINAR IN EPISTEMOLOGY II (3)
PR: Major in philosophy and CI. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 5425 PHILOSOPHY OF THE SOCIAL SCIENCES (4)
PR: Eight hours of philosophy or CI. Philosophic issues arising in the social sciences: value assumptions, laws and theories, models, etc. Seminar format.

PHI 5455 PHILOSOPHY OF NATURAL SCIENCE (4)
PR: Eight hours of philosophy or CI. The function of the course is to investigate (1) problems in methodology of natural science such as the constructing and testing of hypotheses, confirmation and falsification of theories, explanations and the role of laws and models, (2) philosophical implications of the theories of natural science, especially in the areas of space, time, and matter. Seminar format.

PHI 5505 SEMINAR IN METAPHYSICS II (3)
PR: Major in philosophy or CI. A consideration of the theory of reality. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 5585 SEMINAR IN METAPHYSICS I (3)
PR: Major in philosophy or CI. Cosmology. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 5606 SEMINAR IN CONTEMPORARY ETHICS (3)
PR: CI. A study of the central figures and doctrines in Contemp­orary Ethics. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 5705 CONTEMPORARY CONTROVERSIES IN PHILOSOPHY OF RELIGION (4)
PR: PHI 3700 or CI. A survey of contemporary philosophical problems in religion such as demythologizing, falsification, and the meaning and justification of key concepts, e.g., God immortality, faith, etc. Seminar format.

PHI 5913 RESEARCH (1-5)
PR: CI. Individual research supervised by a faculty member. Approval slip from instructor required.

PHI 5934 SELECTED TOPICS (1-5)
PR: CI. Selected topics according to the needs of the student. Approval slip from instructor required.

PHI 6055 STUDIES IN MAJOR PHILOSOPHICAL SYSTEMS (4)
PR: Graduate standing or CI. A detailed study of a metaphysical movement. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 6105 STUDIES IN LOGIC (4)
PR: Graduate standing or CI. Foundations and basic problems of logic. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 6366 STUDIES IN THE THEORY OF MEANING (4)
PR: Graduate standing or CI. Theory of meaning in relation to theory of truth, reference, modality, and analyticity, with bearings on problems in epistemology, metaphysics, and value. This
course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 6405 STUDIES IN THE PHILOSOPHY OF SCIENCE (4)
PR: Graduate standing or CI. A study of the nature and status of physical theories, some basic problems associated with scientific methodology, and the philosophical implications of modern science. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 6606 STUDIES IN THE THEORY OF VALUE (4)
PR: Graduate standing or CI. An analysis and critique of traditional and contemporary theories of value, emphasizing those systems which deal with aesthetic, moral, social, economic, and political values. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHI 6706 STUDIES IN PHILOSOPHY OF RELIGION (4)
PR: Graduate standing or CI. 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.

PHI 6808 STUDIES IN AESTHETICS (4)
PR: Graduate standing or CI. 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.

PHI 6908 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

PHI 6934 SELECTED TOPICS (1-5)
PR: Graduate standing and CI. Selected topics according to the needs of the student. Approval slip from instructor required.

PHI 6938 GRADUATE SEMINAR (4)
PR: Graduate standing. A seminar in the history of philosophy. The instructor will determine the subject matter.

PHI 6945 GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

PHI 6971 THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

PHM 5505 PHILOSOPHY OF HISTORY (4)
PR: Eight hours of philosophy, major in history, or CI. A systematic study of historical theories and of the methods of historical explanation. An examination of classical theories from Vico through Herder, Hegel, Marx down to Spengler and Toynbee, etc. Seminar format.

PHM 6105 STUDIES IN SOCIAL PHILOSOPHY (4)
PR: Graduate standing or CI. A detailed study of the philosophical theories of society, class societies (Capitalism), advanced technocracy (all types). This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHM 6305 STUDIES IN POLITICAL PHILOSOPHY (4)
PR: Graduate standing or CI. An examination of the main political philosophies. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHM 6406 STUDIES IN THE PHILOSOPHY OF LAW (4)
PR: Graduate standing or CI. A study of the metaphysical, ethical, and epistemological bases of law. This course may be taken more than once for credit with CI and departmental approval. Seminar format.

PHM 6506 STUDIES IN PHILOSOPHY OF HISTORY (4)
PR: Graduate standing or CI. The analysis of language and logic of historical explanation, historical idealism, historical materialism, positivism, and historical sociology. This course may be taken more than once for credit with CI and departmental approval.

PHP 5787 PHENOMENOLOGY AND EXISTENTIALISM (4)
PR: Eight hours of philosophy or CI. A study of the methodology, epistemology, and metaphysics of phenomenology and existentialism, with particular reference to the works of Husserl, Heidegger, Merleau-Ponty, and Sartre. Seminar format.

PHYSICAL EDUCATION-ELECTIVE

UNDERGRADUATE COURSES

DAA 1374 FOLK & SQUARE DANCE (2)
An opportunity for the development of fundamental skills and knowledge necessary for enjoyment of Folk and Square Dancing. (S/U only.)

PEL 1121L GOLF I (2)
Introductory experience in the sport of golf. Fundamental skills, information, strategy, and participation. (S/U only.)

PEL 1141L ARCHERY (2)
Development and refinement of the essential skills and information necessary for enjoying the sport of Archery. (S/U only.)

PEL 1341L TENNIS I (2)
Introductory experiences in the sport of tennis. Basic skills, playing strategies, lecture, demonstration, and participation. (S/U only.)

PEL 1346L BADMINTON (2)
Progressive experiences in badminton, fundamental skills, strategy, information, and participation. (S/U only.)

PEL 2122L GOLF II (2)
Continuation of PEL 1121L. Emphasis on course play and refinement of strokes. (S/U only.)
opportunities to specialize in areas of personal interests. (S/U only.)

**PEM 1461C FOIL FENCING**
Progressive experiences in the sport of Foil Fencing. Fundamental skills, strategy, information, and participation. (S/U only.)

**PEM 2102L SPECIAL CONDITIONING**
Varied activities designed to increase the functional ability of the different aspects of physical fitness. (S/U only.)

**PEM 2104L INDIVIDUAL PROGRAMMING**
Individually prescribed and performed conditioning activities. (S/U only.)

**PEM 2107L FIGURE DEVELOPMENT**
Varied activities designed to effect changes in body configuration and functional ability. (S/U only.)

**PEM 2131L WEIGHT TRAINING**
Knowledge and techniques necessary for increasing muscle function. Assessment of status and development of a personal program. (S/U only.)

**PEM 2141C AEROBICS**
Introduction to the knowledge and techniques necessary for increasing cardiorespiratory efficiency. Assessment of status and development of a personal program. (S/U only.)

**PEM 2160C WEIGHT CONTROL**
Introduction to the knowledge and techniques necessary for effecting a change in a body composition. Assessment of status and development of a personal program. (S/U only.)

**PEM 2202L GYMNASTICS II**
Continuation of PEM 1201L. Extended opportunities to master the various gymnastics events. Competition and individual routines. (S/U only.)

**PEM 2321L ROCK CLIMBING**
Introductory experiences in basic rock climbing techniques and related skills. (S/U only.)

**PEM 2376 BACKPACKING**
Introductory experiences designed to develop the physical skills and the mental attitude necessary to travel safely, efficiently, and considerately in the wilderness setting. (S/U only.)

**PEM 2421C WRESTLING**
Progressive experiences in the sport of Wrestling. Fundamental skills, strategy, information, and participation. (S/U only.)

**PEM 2441L KARATE**
Introductory experiences in the sport of Karate. Fundamental skills, strategy, information, and participation. (S/U only.)

**PEN 1121L SWIMMING I**
Development and refinement of the essential skills and information necessary for enjoying swimming. Emphasis on personal safety. (S/U only.)

**PEN 2113C LIFE SAVING**
PR: PEN 2122L or equivalent. Knowledge and skills necessary for saving one’s self or others in the event of aquatic emergency. (S/U only.)

**PEN 2122L SWIMMING II**
PR: PEN 1121L or equivalent. Continuation of PEN 1121L. Special emphasis on development of endurance and efficient stroking. (S/U only.)

**PEN 2136C SKIN & SCUBA DIVING**
PR: PEN 2122L or equivalent. Development of the essential skills and knowledge necessary for enjoying the sport of Skin & Scuba Diving. Correct utilization and care of equipment; emphasis on personal safety. (S/U only.)

**PEN 2141L SYNCHRONIZED SWIMMING**
Introductory experiences in synchronized swimming. Emphasis on essential skills; music interpretation; and choreography. (S/U only.)

**PEN 2251L CANOEING**
PR: PEN 1121L or equivalent. Development and refinement of the skills necessary for enjoying canoeing. Skills, safety techniques and trips. (S/U only.)

**PEQ 3115C WATER SAFETY INSTRUCTION**
PR: PEN 2113C. Examination of the various swimming strokes leading to identification of appropriate methods and techniques for instructing others. ARC certification offered. (S/U only.)

**PET 2330C HUMAN KINESIOLOGY I**
An introduction to the structure and function of the skeletal and neuromuscular systems in reference to their support of vigorous human movement. (S/U only.)

**PET 2340C HUMAN KINESIOLOGY II**
PR: PET 2330C. An introduction to the mechanical principles which govern human movement. (S/U only.)

**PET 4622 ATHLETIC TRAINING**
PR: Cl. Principles and techniques of conditioning athletes for competition; prevention and care of injuries in physical education and athletic activities.

**PHYSICS**

**PHS 3103 PROBLEMS IN GENERAL PHYSICS II**

**PHS 3104 PROBLEMS IN GENERAL PHYSICS III**

**PHS 4404 SOLID STATE PHYSICS**
PR: PHY 3123 or PHY 4124; MAP 4302. 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 quarter of sequence PHS 4404, PHS 5405. Qtr. II.

**PHS 4802 ACOUSTICS FOR COMMUNICOLOGY**
Non-mathematical study of general wave motion and associated phenomena. Acoustic resonance and response of the ear. Introduction to harmonic analysis of complex wave-forms with application to testing with pure tones and various types of waves. Acoustic instrumentation. (No credit for science majors.) Qtr. I, III.

**PHS 4814 FUNDAMENTAL ACOUSTICS**
PR: PHY 3223 or Cl. Vibrations of elastic media, sound gener-
PHY 2038 ENERGY AND HUMANITY (4)
This course, which is primarily qualitative and discussion-oriented, and designed for students of all disciplines and backgrounds, looks at the social, economic, and political aspects of the U.S. and world energy situations. This down-to-earth course, which tells it like it is, seeks to get students involved, teach them how to conserve energy for profit, and show them how they can personally use solar energy as a complementary energy source for both residential and commercial purposes. Field trips, movies, and current energy-related news articles play important roles in this course. (For non-majors.) Qtr. I, II, III, IV.

PHY 2050, 2050L GENERAL PHYSICS AND LABORATORY (4:1)
First quarter of a three-quarter sequence of general physics (mechanics, heat, electricity, wave motion, optics, atomic and nuclear physics) and laboratory for science students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 2051, 2051L GENERAL PHYSICS AND LABORATORY (4:1)
PR: PHY 2050, PHY 2050L. Second quarter of general physics and lab for science students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 2052, 2052L GENERAL PHYSICS AND LABORATORY (4:1)
PR: PHY 2050, PHY 2050L. Third quarter of general physics and lab for science students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 3020 CONTEMPORARY PHYSICS (5)
PR: Junior standing. A qualitative, non-mathematical investigation of physics, emphasizing its influence on life today. (No credit for physics or mathematics majors.) Qtr. I, II, III.

PHY 3040, 3040L GENERAL PHYSICS AND LABORATORY (3:1)
PR: MAC 3281 or MAC 3411. First quarter of a three-quarter sequence of general physics (mechanics, wave motion, sound, thermodynamics, geometrical and physical optics, electricity, and magnetism) and laboratory for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 3041, 3041L GENERAL PHYSICS AND LABORATORY (3:1)
PR: MAC 3282 or MAC 3412, PHY 3040, PHY 3040L. Second quarter of general physics and laboratory for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 3042, 3042L GENERAL PHYSICS AND LABORATORY (3:1)
PR: MAC 3282 or MAC 3412, PHY 3040, PHY 3040L. Third quarter of general physics for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 3123 MODERN PHYSICS I (3)

PHY 3223 MECHANICS I (3)

PHY 3323C ELECTRICITY AND MAGNETISM I (4)
PR: MAC 3284 or MAC 3414. Electromagnetic circuits; resistance, capacitance, inductance, direct- and alternating-current circuits, thermoelectricity, and instrumentation. Laboratory. First quarter of sequence PHY 3323C, PHY 4324, PHY 4325. Qtr. II.

PHY 3424 OPTICS (4)
PR: PHS 3101 or PHY 3042; CR: MAC 3284 or MAC 3414. Reflection, refraction, dispersion, interference, diffraction, polarization, and laboratory. Qtr. I.

PHY 3822L INTERMEDIATE LABORATORY (2)
CR: PHY 2052 or PHY 3042 or equivalent. Experiments in modern physics, including the area of atomic, nuclear, solid state and wave phenomena. Qtr. I, II, III.

PHY 4124 MODERN PHYSICS II (3)
PR: PHY 3123 or CR, MAP 4302. Special theory of relativity, statistical distribution functions, angular momentum, system of identical particles, and properties of matter. Qtr. I.

PHY 4224 MECHANICS II (3)
PR: MAP 4302 and PHY 3223. Continuation of PHY 3223. Motion of a group of particles, coupled oscillators, normal modes, dynamics of rigid bodies. Lagrange's and Hamilton's equations, principle of least action. Qtr. II.

PHY 4225 MECHANICS III (3)
PR: PHY 4224. Continuation of PHY 4224. Elastic media, the wave equation, transverse and longitudinal wave motion, the diffusion equation, boundary value problems, and Fourier series. Fourier integral, fluid dynamics. Qtr. III.

PHY 4324 ELECTRICITY AND MAGNETISM II (3)
PR: PHY 3223, PHY 3323C or CR: MAP 4302. Electrostatic fields, magnetic fields of steady currents, dielectrics and magnetic materials, Maxwell's equations. Second quarter of sequence PHY 3323C, PHY 4324, PHY 4325. Qtr. III.

PHY 4325 ELECTRICITY AND MAGNETISM III (3)

PHY 4404 HOLOGRAPHY FOR FILM MEDIA (4)
PR: Junior standing in any major or CC. Practical instruction and laboratory experience in the making of holograms. Qualitative theory of lasers and holography. (For non-majors.) Qtr. II, III.

PHY 4526 STATISTICAL PHYSICS (4)
CR: PHY 3123 or PHY 4124. Statistical approach to thermodynamics and kinetic theory and introduction to statistical mechanics. Qtr. II.

PHY 4604 QUANTUM MECHANICS I (3)
PR: PHY 4124 or CR. Wave-particle duality, uncertainty principle, Schrödinger's equation, postulates, angular momentum, and central forces. First quarter of sequence PHY 4604, PHY 5624. Qtr. II.

PHY 4744C ELECTRONICS FOR RESEARCH (4)
PR: General Physics or CR. Direct and alternating current circuits, transients, rectification, amplification; feedback, pulse circuits, and integrated circuits, laboratory. (No credit for physics or mathematics majors.) Qtr. I, III.

PHY 4823L ADVANCED LABORATORY (2)
PR: PHY 3822L. Experimental work primarily related to nuclear physics. Emphasis on modern physical experimental techniques employing some of the new types of equipment. Qtr. I, III.

PHY 4905 INDEPENDENT STUDY (1-4)
PR: CR. Specialized, independent study determined by the student's need and interest. The written contract required by the College of Natural Sciences specifies the regulations governing independent study. May be repeated. (S/U only.) Qtrs. I, II, III, IV.

PHY 4910 UNDERGRADUATE RESEARCH (1-6)
PR: Senior or advanced junior standing and CC. Individual experimental work under supervision of instructor. (S/U only.) Qtr. I, II, III, IV.
PHYSICS 5624 QUANTUM MECHANICS II (3)
PR: PHY 4604 or CI. Matrix mechanics, approximation methods, transformations, scattering and identical particles. Qtr. III.

PHYSICS 5722C ELECTRONICS (4)
PR: PHY 3822L and PHY 4324. Vacuum and gas-discharge tubes, semiconductors, transistors, electronic circuit analysis, and laboratory. Qtr. II.

PHYSICS 5937 SELECTED TOPICS IN PHYSICS (1-6)
PR: Senior or advanced standing and CC. Each topic is a course in directed study under the supervision of a faculty member.

PHY 6246 CLASSICAL MECHANICS I (3)
PR: PHS 5113 or CI. Dynamics of particles and systems of particles, Lagrange's equation, central forces, rigid body dynamics. First quarter of sequence PHY 6246, PHY 6247. Qtr. II.

PHY 6247 CLASSICAL MECHANICS II (3)
PR: PHY 6246 or CI. Hamilton's equations, canonical transformations, Poisson brackets, small oscillations, Hamilton-Jacobi theory, continuous systems. Qtr. III.

PHY 6346 ELECTROMAGNETIC THEORY I (4)
PR: PHY 4325 or CI. Electrostatics, magnetostatics, potential and boundary value problems. Maxwell's equations. First quarter of sequence PHY 6346, PHY 6347. Qtr. I.

PHY 6347 ELECTROMAGNETIC THEORY II (4)
PR: PHY 6346 or CI. Electromagnetic waves, wave guides and resonant cavities, diffraction, relativistic-particle kinematics and dynamics, plasmas and magnetohydrodynamics. Qtr. II.

PHY 6536 STATISTICAL MECHANICS (4)
PR: PHY 4526 or CI. Kinetic theory, configuration and phase space. Boltzmann theorem, Liouville theorem, ensemble theory, quantum statistics. Qtr. III.

PHY 6645 QUANTUM MECHANICS III (3)
PR: PHY 5624 or CI. Dirac equation, quantized fields, collision theory symmetry, and invariance. Qtr. I.

PHY 6846L EXPERIMENTAL PHYSICS (2)
PR: Graduate standing. Laboratory techniques frequently required in experimental research. Includes manipulation of glass, production and measurement of vacua, production and measurement of thin films, and use of various machine tools. Qtr. I.

PHY 6909 INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

PHY 6911 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

PHY 6935 GRADUATE SEMINAR (1)
All physics graduate students are expected to enroll in this course Qtr. I each year. (S/U only.) Qtr. I, II, III, IV.

PHY 6938 SELECTED TOPICS IN PHYSICS (1-15)
PR: CC. Each topic is a course in directed study under the supervision of a faculty member.

PHY 6940 GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

PHY 6971 THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

POLITICAL SCIENCE

UNDERGRADUATE COURSES

CPO 3002 INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS (4)
Analysis of political systems using the concepts and methods of comparative politics.
COMPARATIVE GOVERNMENT AND POLITICS OF SELECTED COUNTRIES OR AREAS (4)
Studies a single political system or several political systems with common elements. Structure, process, domestic and foreign policies and regional roles are considered. May be repeated for credit as topics vary. Open to majors and non-majors.

INTRODUCTION TO INTERNATIONAL RELATIONS (4)
Study of contemporary international affairs, including analysis of politics among nations; control of national foreign policies, sovereignty, nationalism and diplomacy; technology, public opinion and war in international relations.

AMERICAN FOREIGN POLICY (4)
Analysis of the development and scope of United States foreign policy focusing upon our aims, decision-making, application of policies, and alternatives for specified problem areas in foreign affairs.

INTERNATIONAL LAW AND DIPLOMACY (4)
Contemporary international norms, agreements and negotiations. Their influence on, and response to, a changing international system.

DEFENSE POLICY (4)
Analytic study of contemporary American defense policy. It includes institutional factors contributing to formulation of defense policy and the impact of such policy on international relations.

INTERNATIONAL ORGANIZATION (4)
The problems of achieving peace through existing international structures, both within and outside the United Nations. The background, achievement and organizational problems of these agencies.

INTRODUCTION TO PUBLIC ADMINISTRATION (4)
A comprehensive examination of the field of public administration, with emphasis on the development of important theories and practices within the context of the American political system.

PUBLIC FINANCIAL ADMINISTRATION (4)
Analysis of problems in the growth and development of public budgets, with emphasis on principal techniques and theories of fiscal administration.

AMERICAN NATIONAL GOVERNMENT (4)
Analysis of basic principles and procedures of the American governmental system with emphasis on current issues and trends.

STATE AND LOCAL GOVERNMENT AND POLITICS (4)
Analysis of the structure and function of state and local governments, of the social and political influences that shape them, and of the dynamics of their administrative processes.

INTRODUCTION TO URBAN POLITICS AND GOVERNMENT (4)
An introductory analysis of governmental structures, political process and problems in metropolitan areas. Open to majors and non-majors.

GOVERNING METROPOLITAN AREAS (4)
Examines current governmental institutions and their operating characteristics in light of the formation and growth of metropolitan areas and the need for regional governance, and identifies and analyzes current governance problems and potential institutions for effective governance. Open to majors and non-majors.

SOUTHERN POLITICS (4)
Comparative analysis of selected political patterns and trends in the eleven southern states since 1890.

FLORIDA POLITICS AND GOVERNMENT (4)
A study of Florida political culture, political parties and election patterns, the legislative, executive, and judicial systems, and policy problems. Open to majors and non-majors.

PRACTICAL POLITICS (4)
PR: POS 2041 or POS 3453 or CI. Field work in local political party activities and election campaigns. Open to majors and non-majors.

JUDICIAL POLITICS (4)
Consideration of selected theories of judicial decision-making. Examination and application of social science methodology to the study of court systems.

POLITICAL PARTIES AND INTEREST GROUPS (4)
Analysis and understanding of the role, functions and processes of political parties and interest groups in American government.

JUDICIAL PROCESS (4)
Studies in the organization, development and function of American court systems, and the roles they play in the process of government. Open to majors and non-majors.

INTRODUCTION TO LAW AND POLITICS (4)
Survey of important aspects of the study of law in political science. Among topics considered are the nature of law and the legal process and the relationship to political life of constitutional law, administrative law, the judicial process and private law. Understanding is sought in the related dimensions of legal theory, behavior, and impact on public policy.

EMPIRICAL POLITICAL ANALYSIS (4)
An introduction to the conduct of empirical political inquiry and to research methods. Techniques of data generation, collection, and analysis will be emphasized. Laboratory exercises required.

CITY POLITICS (4)
Analysis of the politics of cities and suburbs: citizen attitudes, voting, participation; ethnic politics; the political machine; community power structures; interest groups. Open to majors and non-majors.

POLITICAL BEHAVIOR (4)
Analysis of economic, psychological and social dimensions of political behavior; political participation; leadership and elites; political attitudes; voting behavior and decision-making processes.

VOTING BEHAVIOR, PUBLIC OPINION, AND ELECTIONS (4)
Critical analysis of mass voting behavior and the role of elections in formally democratic political systems. Special emphasis on American patterns, with secondary attention to cross-national research. Open to majors and non-majors.

THE AMERICAN PRESIDENCY (4)
Examination of the presidency as a political institution. Analysis of constitutional, statutory and informal powers; legislative and political leadership; presidential decision-making processes; administrative responsibilities; White House staffing; limits on power.

THE AMERICAN CONGRESS (4)
Analysis of the American Congress; organization, procedure, committee system, party leadership, relations with governmental and non-governmental organizations and agencies, oversight and decision-making process.

CONSTITUTIONAL LAW I (4)
Examination of the underlying philosophy of the American Constitution, its principal institutions, their legal relationships to each other and the scope of their powers. Analysis of cases and commentaries from the founding period to the present.

CONSTITUTIONAL LAW II (4)
Analysis of the evolution of individual rights in such areas as property rights, rights of the accused, minority rights, and freedom of expression. Examination of Supreme Court cases and scholarly commentaries.
POS 4933 WOMEN AND LAW (4)
Issues concerning the legal aspects of sex and sex-based discrimination as embodied in statutory and case law. Open to majors and non-majors. (Also offered under Women's Studies.)

POS 4905 INDEPENDENT STUDY (1-5)
PR: 3.0 average in Political Science. Specialized independent study determined by the students' needs and interests and with CI. (S/U only.)

POS 4910 INDIVIDUAL RESEARCH (1-8)
PR: 3.0 average in Political Science and CI. Investigation of some aspect of political science culminating in the preparation of an original research paper.

POS 4936 SENIOR SEMINAR (4)
PR: Senior standing. Designed to give the student an opportunity to examine and apply various concepts and methods in the field of political science to some integrated problem area.

POS 4941 FIELD WORK (4)
PR: 3.0 average in Political Science and CI. Opportunity for students to obtain practical experience, knowledge and understanding of local government, politics and administration by becoming involved as research and administrative aides to agencies and institutions of local government.

POS 4970 HONOR THESIS (4)
PR: Admission to Honor Plan and CI. Writing of honor thesis under direction of faculty members.

POT 3003 INTRODUCTION TO POLITICAL THEORY (4)
Survey of the various kinds of theory used by political scientists for understanding political phenomena. Examination of the principal distinctions, contributions and problems in such theories as normative theory, empirical theory, historicist theory and analytic theory. Open to majors and non-majors.

POT 3013 CLASSICAL POLITICAL THEORY (4)
Analysis of basic political ideas from the works of Plato, Aristotle, Cicero, and other leading Greek and Roman political philosophers.

POT 4054 MODERN POLITICAL THOUGHT (4)
Analysis of basic political ideas from the works of Machiavelli, Hobbs, Locke, Rousseau, Burke, Bentham, and Mill.

POT 4064 CONTEMPORARY POLITICAL THOUGHT (4)
Analysis of themes and personalities from 19th and 20th century political thought.

POT 4204 AMERICAN POLITICAL THOUGHT (4)
Analysis of American political thought from the colonial period to the present with emphasis on recent contributions.

PUP 4534 HOUSING AND GOVERNMENT (4)
Examines the role of federal, state, and local government in the formulation and implementation of housing policy. Analyzes the political aspects of housing policy formation and the administrative aspects of the housing delivery system. Open to majors and non-majors.

URP 4050 CITY PLANNING AND COMMUNITY DEVELOPMENT (4)
An introduction to the development, role and components of city planning in local government and to the potential and actual policies of state and local government in attempting to regulate or control urbanization. Open to majors and non-majors.

GRADUATE COURSES

CPO 5934 ISSUES IN COMPARATIVE GOVERNMENT (4)
Selected problems and issues in comparative government. May be repeated for credit as topics vary.

CPO 6007 SEMINAR IN COMPARATIVE GOVERNMENT AND POLITICS (4)
Comparative analysis of political systems in terms of processes, institutions and behavior.

CPO 6008 GOVERNMENT AND POLITICS OF SELECTED COUNTRIES OR AREAS (4)
Examination of the government and politics of one country or a group of countries constituting an area. The specific country or area to be determined by the instructor. May be repeated for credit as topics vary.

CPO 6036 POLITICS OF DEVELOPING AREAS (4)
Advanced study of ideologies, governmental structures and political processes of selected nations of the non-Western world.

INR 5086 ISSUES IN INTERNATIONAL RELATIONS (4)
Selected problems and issues in international relations. May be repeated for credit as topics vary.

INR 6007 SEMINAR IN INTERNATIONAL RELATIONS (4)
Investigation of selected phases of international relations in world politics.

INR 6107 AMERICAN FOREIGN POLICY (4)
A study of U.S. foreign policies with emphasis on decision-making processes, structures; policy outcome; and the evaluation of related political and economic issues.

PAD 5035 ISSUES IN PUBLIC ADMINISTRATION AND PUBLIC POLICY (4)
Selected issues and topics in Public Administration and Public Policy. May be repeated for credit as topics vary.

PAD 5333 CONCEPTS AND ISSUES IN PUBLIC PLANNING (4)
Analysis of planning in the public sector and the various important processes involved, such as policy determination, collection of information, decision-making, and other organizational and political processes.

PAD 5417 PUBLIC PERSONNEL ADMINISTRATION (4)
An analysis of recruitment, testing, training, employee and human relations in the public service.

PAD 5605 ADMINISTRATIVE LAW (4)
An examination of the constitutional bases and limitations of the administrative process, administrative adjudication, rule making and the judicial review of such actions.

PAD 5612 ADMINISTRATIVE REGULATION (4)
An analysis of the regulatory functions and processes in the American political system. The regulatory commissions, their functions, powers, management, and relations with other branches of government are covered.

PAD 5807 ADMINISTRATION OF URBAN AFFAIRS (4)
An analysis of the role of the administrator at the municipal level stressing the division functions, policy formulation, alternative governmental structures and their effect on administrative processes.

PAD 5836 COMPARATIVE PUBLIC ADMINISTRATION (4)
Analysis of Public Administrative systems or institutions cross-nationally with special emphasis on conceptual developments and empirical knowledge from Western and non-Western types of governments.

PAD 6037 BUREAUCRACY AND PUBLIC POLICY (4)
Analysis of the formal, informal and societal characteristics of public bureaucracies and their impact on public policy.

PAD 6060 SEMINAR IN PUBLIC ADMINISTRATION (4)
Examination of major conceptual developments, current research interests, issues, and problems in the theory and process of public administration.

PAD 6207 PUBLIC FINANCIAL ADMINISTRATION (4)
An examination of the fiscal organization of federal, state and local governments. Current problems in budgeting, revenue and indebtedness are considered.

PAD 6228 STATE AND LOCAL BUDGETING (4)
An examination of the budgetary systems and practices of state and local governments with emphasis on preparation, authorization, execution and control.
PAD 6306 URBAN POLICY ANALYSIS (4)
Systematic examination of the organizational and administrative characteristics of planning, program development and reporting activities conducted at local levels by various state, regional and federal agencies.

POS 5094 ISSUES IN AMERICAN NATIONAL AND STATE GOVERNMENT (4)
Selected issues and topics in Urban Government and politics. May be repeated for credit as topics vary.

POS 5155 ISSUES IN URBAN GOVERNMENT AND POLITICS (4)
Selected issues and topics in Urban Government and politics. May be repeated for credit as topics vary.

POS 5699 RESEARCH IN LAW AND POLITICS (4)
Application of basic research tools to problems of case law and legislative history. Actual research experiences are employed to develop skills in such tasks as analyzing judicial opinions, finding points of law and researching legislative intent. The use of these skills is illustrated in a variety of settings, including public, governmental and academic research.

POS 5734 POLITICAL RESEARCH METHODS (4)
An examination of problems and issues of political research methods, including the formulation of research problems, research design, acquisition of data and analysis.

POS 5764 COMPUTER APPLICATIONS IN POLITICAL SCIENCE (4)
An introduction to the applications of computers to the study of politics. Topics include: unit-record equipment, electronic computer, coding of data, statistical packages, data analysis, alternative applications.

POS 6045 SEMINAR IN AMERICAN NATIONAL GOVERNMENT AND POLITICS (4)
Advanced study of the institutions and processes of American national government.

POS 6095 SEMINAR IN INTERGOVERNMENTAL RELATIONS (4)
Advanced study of the interaction between the various levels of government. Emphasis is given to the counties, special districts, C.O.G.'s interlocal agreements, and new fiscal processes.

POS 6127 SEMINAR IN STATE GOVERNMENT AND POLITICS (4)
Advanced study of the institutions and processes of American state government.

POS 6157 SEMINAR IN URBAN GOVERNMENT AND POLITICS (4)
Analysis of the literature in urban government and politics, with special emphasis on urban political behavior and the development of various theories and propositions regarding governmental structure and the formation and implementation of public policy.

POS 6207 POLITICAL BEHAVIOR (4)
Advanced study of determinants and dimensions of political behavior; political participation, voting, attitudes, public opinion, leadership, and elite behavior.

POS 6246 POLITICAL SOCIALIZATION (4)
Seminar in selected phases of the political socialization process.

POS 6415 THE AMERICAN PRESIDENCY (4)
Analysis of problems of modern presidency, with emphasis on staffing and decision-making.

POS 6427 THE LEGISLATIVE PROCESS (4)
Analysis of formal and informal decision-making processes in House and Senate; executive- legislative conflict and cooperation; input/output analysis.

POS 6455 POLITICAL PARTIES AND INTEREST GROUPS (4)
Analysis of role, functions and various special characteristics of political parties and interest groups as well as their interactions with other political institutions in the political process.

POS 6607 CONSTITUTIONAL LAW (4)
Advanced study of legal, political and methodological problems related to constitutional law.

POS 6608 SEMINAR IN LAW AND POLITICS (4)
Advanced study of institutions and processes in the field of law and politics.

POS 6706 SCOPE AND METHODS OF POLITICAL SCIENCE (4)
Advanced study of the scope and methodologies of political science, including their applications to different research areas.

POS 6909 INDEPENDENT STUDY (1-5)
PR: 3.0 average in Political Science. Specialized independent study determined by the students' needs and interests and with the consent of the instructor. (S/U only.)

POS 6919 DIRECTED RESEARCH (var)
PR: GR. Master's level. Repeatable. (S/U only.)

POS 6934 SELECTED TOPICS IN POLITICAL SCIENCE AND PUBLIC ADMINISTRATION (4)
Selected topics, issues, and problems in political science and public administration for advanced graduate students. May be repeated for credit as topics vary.

POS 6942 FIELD WORK IN POLITICAL SCIENCE AND PUBLIC ADMINISTRATION (1-8)
PR: 3.0 average in Political Science and CI. Application of research models now employed in governmental agencies, including developing a structured research proposal. Designed to give students practical experience in the administrative and political processes. Required for MPA students.

POS 6971 THESIS: MASTER'S (var)
Repeatable. (S/U only.)

POT 5626 ISSUES IN POLITICAL PHILOSOPHY AND LAW (4)
Selected topics in political philosophy and law. May be repeated for credit as topics vary.

POT 6007 SEMINAR IN POLITICAL THEORY (4)
This course will deal with the major contributions to political theory through the ages. An analysis, both critical and analytical, of the major works will be attempted.

PUP 6007 SEMINAR IN PUBLIC POLICY (4)
An analysis of the background and interpretation of various approaches which influence the formulation and execution of public policy.

PUP 6538 GOVERNMENTAL HOUSING POLICY (4)
This course examines government involvement in housing, with special emphasis on the development and analysis of certain housing programs.

URP 6506 CITY AND REGIONAL PLANNING (4)
An investigation of regional planning and a review of goals, objectives, and interrelationships between regional and city planning; and intergovernmental and policy issues in the regional planning process.

PSYCHOLOGY

UNDERGRADUATE COURSES

CBH 4004 COMPARATIVE PSYCHOLOGY
PR: EXP 4404, PSB 4013, PSY 2012, PSY 3013, PSY 3213, PSY 3214. The study of the evolution of behavior, similarities, and differences in capacities for environmental adjustment and for behavioral organization among the important types of living beings from plants and unicellular organisms to the primates including man.

CLP 3003 PSYCHOLOGY OF ADJUSTMENT
Genetic, organic, and learned factors involved in the processes of personal adjustment: applications for mental health principles to everyday living. Not for major credit.

CLP 4143 PSYCHOPATHOLOGY

CLP 4433 PSYCHOLOGICAL ASSESSMENT
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. A consideration of the instruments for intellectual and personality assessment including their applications, development, and potential abuses. Students may not receive credit for both CLP 4433 and EDF 3430. Introduction to Measurement and Evaluation.

DEP 3103 CHILD PSYCHOLOGY
Developmental and psychosocial aspects of childhood, including hereditary, maturational, psychological, and social determinants of child behavior. Not for major credit.

DEP 4005 DEVELOPMENTAL PSYCHOLOGY

EXP 4204C PERCEPTION
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. How man perceives his environment. Topics include sensory basis of perception, physical correlates of perceptual phenomena, and the effects of individual and social factors on perception. Primary emphasis on vision and audition. Lec.-lab.

EXP 4304 MOTIVATION
PR: EXP 4404, PSY 2012, PSY 3013, PSY 3213, PSY 3214. An examination of human and animal motivations from both physiological and psychological viewpoints.

EXP 4404 PSYCHOLOGY OF LEARNING

EXP 4523C HUMAN MEMORY
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. Survey of methods, empirical findings, and theoretical interpretations of human learning and retention, including concept learning, information processing, and verbal learning. Lec.-lab.

INP 3101 APPLIED PSYCHOLOGY
The application of psychological principles and the functions of psychologist in education, government, industry, and clinical practice. Not for major credit.

INP 4004 INDUSTRIAL PSYCHOLOGY
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. Applications of psychological principles to industry. Topics include: selection and placement, testing, criterion development, performance appraisal, training, motivation, job attitudes and satisfaction, supervision, decision-making, organizational structure and theory, accidents and safety, human engineering.

PPE 4004 PERSONALITY
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. Methods and findings of personality theories and an evaluation of constitutional, biosocial, and psychological determinants of personality.

PSY 4013C NEUROPSYCHOLOGY

PSY 2012 AN INTRODUCTION TO CONTEMPORARY PSYCHOLOGY
Designed as an introductory course in psychology for both majors and non-majors. A broad survey of contemporary psychology with special emphasis on the more applied areas of psychology (e.g., social psychology, clinical psychology, industrial psychology).

PSY 3003 CONTEMPORARY PROBLEMS IN PSYCHOLOGY
Selected topics from all areas of psychology designed to give the undergraduate non-major an opportunity to become acquainted with psychological concepts relevant to contemporary problems in our society. Not for major credit.

PSY 3013 GENERAL PSYCHOLOGY
PR: PSY 2012 or Cl. Designed as an in-depth examination of the basic principles and concepts of psychology. It is intended to provide the student with the necessary knowledge for the more specialized courses that follow. Students will be introduced to the basics of experimental investigations and be given extensive coverage of the basic areas of psychology (e.g., learning, perception, neuropsychology). Three lectures, one discussion/lab.

PSY 3213 RESEARCH METHODS IN PSYCHOLOGY I
PR: PSY 3013 or Cl. Designed to provide an introduction to the methods employed in psychological research, this course considers the logic of experimental design, the concept of control, and the analysis of experimentally obtained data. Following the discussion of factors common to all experimental designs, the course focuses on one and two group designs, control problems specific to these designs, and the methods of data reduction and evaluation typically applied to these designs. The laboratory section provides experience applying the concepts discussed in the lecture.

PSY 3214 RESEARCH METHODS IN PSYCHOLOGY II
PR: PSY 3213. A continuation of the introduction to the methods of psychological research begun in PSY 3213. Consideration of multiple treatment designs and data analysis. Discussions of small-N designs, correlational designs, non-parametric data evaluation, and measurement of sensation. The laboratory section provides experience applying the concepts discussed in lecture.

PSY 3933,3934 RESEARCH METHODS IN PSYCHOLOGY
PR: PSY 2012, PSY 3013, STA 3122. Scientific research methods and their applications for psychology. Topics include experimental planning, control procedures, and interpretive principles. Lecture plus two hour lab. Must be taken concurrently.

PSY 4205 EXPERIMENTAL DESIGN AND ANALYSIS
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. Detailed coverage of those research designs and statistical techniques having the greatest utility for research problems in psychology. Emphasis on topics from analysis of variance.

PSY 4604 SYSTEMATIC PSYCHOLOGY
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. The historical roots of modern psychological theories, investigation of the various schools of psychology such as behaviorism. Gestalt psychology, psychoanalysis, and phenomenological psychology.

PSY 4904 DIRECTED READING
PR: Upper division standing and Cl. A reading program of topics in psychology is conducted under the supervision of a psychology faculty member. May be repeated with a maximum of eight hours credit.
PSY 4913 DIRECTED RESEARCH (1-4)
PR: Upper division standing and CI. The student plans and conducts an individual research project under the supervision of a psychology faculty member. May be repeated with a maximum of eight hours credit.

PSY 4931 SELECTED TOPICS: SEMINAR (4)
PR: Upper division standing and CI. Graduate-type seminar designed to provide the advanced undergraduate student with the opportunity to interact with the faculty and other students for the purpose of developing an in-depth understanding of a selected sub-area within psychology. May be repeated with a maximum of eight hours credit.

PSY 4932 HONORS SEMINAR (4)
PR: Admission to honors program in psychology and CI. Graduate-type seminar designed to provide the honors student with an opportunity to present, discuss, and defend his own research and to explore in-depth topics in several areas of psychology. May be repeated with a maximum of 12 hours credit.

PSY 4970 HONORS THESIS
PR: Admission to honors program in psychology and CI. The student under supervision of a faculty member will formalize, conduct, analyze, and report in writing a research project in psychology.

SOP 4004 SOCIAL PSYCHOLOGY (4)
PR: PSY 2012, PSY 3013, PSY 3213, PSY 3214. Survey of methods, empirical findings, and theoretical interpretations in the study of an individual's behavior as it is affected by others.

SOP 4714C ENVIRONMENTAL PSYCHOLOGY (4)
PR: PSY 2012 or PSY 3013 or CI. This course will explore the influence of environment on behavior. Topics considered will include crowding, privacy, territorial behavior, environmental design, and pollution effects. This course is designed for both psychology majors and non-majors.

SOP 4742 PSYCHOLOGY OF WOMEN (4)
An examination of theories of female personality in historical perspective. Current research on sex differences, socialization, sexuality, psychology of reproduction. Emerging roles of women as related to social change and developmental tasks of the life cycle. (Also offered under Women's Studies.)

SOP 4772 HUMAN SEXUAL BEHAVIOR (4)
The dynamics of human sexuality including biological, constitutional, cultural, and psychological aspects. Exploration of the range of sexual behavior across groups. Sources of beliefs and attitudes about sex, especially female sexuality, current status. Interdisciplinary faculty. (Also offered under Women's Studies.)

GRADUATE COURSES

CLP 6166 PSYCHOPATHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. Exploration of current approaches to the understanding of pathological behavior and implications for theories of personality. A survey of treatment methods is included. M.A. core course.

CLP 6438 PSYCHOLOGICAL ASSESSMENT (5)
PR: CI. Courses cover theory, research, and applications of psychological assessment in areas such as interviewing, intellectual and cognitive functioning, neuropsychodiagnoses, and personality testing. May be repeated for credit with different subject matter.

CLP 6477 BEHAVIORAL DISORDERS OF CHILDREN (5)
PR: CI. Causative factors in behavior deviations common to children and adolescents. Thorough study of selected childhood mental disorders and a survey of ameliorative techniques for treating childhood behavior difficulties.

CLP 6937 TOPICS IN CLINICAL-COMMUNITY PSYCHOLOGY (5)
PR: CI. Courses on topics such as humanistic psychology, community psychology, and clinical neuropsychology. May be repeated for credit with different subject matter.

CLP 7188 PSYCHOTHERAPY AND BEHAVIOR CHANGE (5)
PR: Admission to graduate degree program in psychology and CI. Courses to cover the theoretical, empirical, and applied foundations of various systems of psychotherapy. Traditional relationships therapy, client-centered approaches, operant technique, group psychotherapy, and other varieties of therapeutic intervention. May be repeated for credit with different subject matter.

CLP 7379 GRADUATE SEMINAR IN CLINICAL-COMMUNITY PSYCHOLOGY (1-5)
PR: CI. Seminars on topics such as psychopathology, community psychology, clinical issues, personality, and developmental psychology. May be repeated for credit with different subject matter.

DEP 6058 DEVELOPMENTAL PSYCHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. Detailed study of the development of human and animal behavior aimed toward an understanding of ontogenetic contributions to later behaviors. Effects of early experience on later behavior. M.A. core course.

EAB 6717 APPLICATIONS OF LEARNING PRINCIPLES & PROCEDURES (5)
PR: Prior course in learning, or CI. Application of various learning principles and procedures to problems in specialized settings. (Also offered under Rehabilitation Counseling.)

EXP 6208 PERCEPTION (5)
PR: Admission to M.A. program in psychology or CI. Current data and theory of perceptual processes. Consideration of physiological and psychological variables in perception, and applications of information theory and signal detection theory. M.A. core course.

EXP 6307 MOTIVATION AND EMOTION (5)
PR: CI. A detailed examination of human motivation and emotion from both the physiological and psychological viewpoints. M.A. core course.

EXP 6406 LEARNING (5)
PR: Admission to M.A. program in psychology or CI. Habituation, sensitization, classical and instructional conditioning, generalization, discrimination, trial and error learning, problem solving. M.A. core course.

EXP 6526 HUMAN MEMORY (5)
PR: Admission to M.A. program in psychology or CI. Review of methods, findings, and theoretical interpretations associated with the study of acquisition and retention of information. M.A. core course.

EXP 6930 TOPICS IN EXPERIMENTAL PSYCHOLOGY (5)
PR: CI. Courses on topics such as operant behavior, electrophysiological methods, psychophysiology, and memory. May be repeated for credit with different subject matter.

EXP 7099 GRADUATE SEMINAR IN EXPERIMENTAL PSYCHOLOGY (1-5)
PR: CI. Seminars on topics such as learning, perception, physiological psychology, cognitive processes, and quantitative methods. May be repeated for credit with different subject matter.

INP 6056 INDUSTRIAL PSYCHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. An introduction to the major areas of Industrial-Organizational Psychology including the topics of selection and placement, training, criterion development and performance appraisal, job satisfaction and motivation, and organizational theory and structure. M.A. core course.

INP 6935 TOPICS IN INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY (5)
PR: CI. Courses on topics such as industrial psychology, testing in industry, human factors psychology, and training in industry. May be repeated for credit with different subject matter.
INP 7097 GRADUATE SEMINAR IN INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY (1-5)
PR: CI. Seminars on topics such as industrial psychology, evaluation of performance in industry, and human factors. May be repeated for credit with different subject matter.

PPE 6058 PERSONALITY (5)
PR: Admission to M.A. program in psychology or CI. Neural and traditional and current theory and research in the area of personality. M.A. core course.

PSB 6056 PHYSIOLOGICAL PSYCHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. Neural and physiological foundations of behavior. Structure and function of the central nervous system and autonomic nervous system. Physiological basis of learning, motivation in sub-humans and humans. M.A. core course.

PSY 6217 RESEARCH METHODS AND MEASUREMENT (5)
PR: Admission to graduate degree program in psychology or CI. Courses designed to cover research methods and strategies and their application to psychology. Topics include logic and purpose of experimentation in psychology, measurement theory, design and analysis of experiments, probability, statistical inference, analysis of variance, correlational methods, interpretation of experimental findings. M.A. core course. May be repeated for credit with different subject matter.

PSY 6218 GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of five credits per student. (S/U only.)

PSY 6907 INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

PSY 6917 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

PSY 6946 PRACTICUM AND INTERNSHIP IN CLINICAL PSYCHOLOGY (1-15)
PR: CI. Supervised training in community and university settings in the application of psychology. May be repeated for credit.

REHABILITATION COUNSELING

Director: C. M., Pinkard, Jr.; Associate Professors: J. F. Dickman, P. Gross, M. J. Landsman, C. M. Pinkard, Jr.; Assistant Professor: J. D. Rasch

GRADUATE COURSES

EGC 5065 REHABILITATION: CONCEPTS AND THEORETICAL ISSUES (5)
A look at the historical origin, development, and current understanding of the philosophy of rehabilitation. The rehabilitation process is viewed as an integration of concepts and procedures from the medical, social-psychological, and legal disciplines.

EGC 5376 MEDICAL ASPECTS OF DISABILITY (5)
Study of medical information needed by the counselor in integrating medical services into the total rehabilitation process from referral to placement. Examines the effect of a client's physical condition on various areas of adjustment. Includes appraisal of physical capacities in terms of functional limitations and individual differences.

EGC 5493 SEMINAR IN PRINCIPLES AND PRACTICES OF REHABILITATION COUNSELING I (4)
PR: CI. Procedures appropriate in meeting the needs of handicapped individuals in the rehabilitation process. Must be taken concurrently with EGC 5850. (S/U only.)

EGC 5725 INTERPERSONAL ASPECTS OF REHABILITATION COUNSELING I (5)
PR: CI. Focuses on the effective utilization of one's self in the various counseling and coordinating relationships of the rehabilitation process. An introduction to encounter, body awareness, Gestalt counseling techniques, and related approaches.

EGC 5850 PRACTICUM I (2)
PR: CI. Supervised observation experience and participation in counseling services in various rehabilitation agencies. Must be taken concurrently with EGC 5493. (S/U only.)

EGC 5905 DIRECTED STUDIES (2-5)
PR: CI. Study in rehabilitation counseling area under the direct supervision of a faculty member. May be repeated for a maximum of 10 hours credit.

EGC 6205 EVALUATION IN THE REHABILITATION PROCESS (5)
PR: EGC 5725. Examine the evaluation procedure from the point of view of providing reliable and valid information for use in the counseling process.

EGC 6374 VOCATIONAL EVALUATION, ADJUSTMENT SERVICES, AND PLACEMENT OF THE HANDICAPPED AND DISADVANTAGED (2-5)
Methods and techniques employed to assess the mental, social, physical, and vocational problems of handicapped and disadvantaged persons. Diagnosis, evaluation, and placement in relation to vocational potential.

EGC 6417 APPLICATIONS OF LEARNING PRINCIPLES AND PROCEDURES (5)
PR: Prior course in learning or CI. Application of various learn-
ing principles and procedures to problems in specialized settings. (Also offered under Psychology.)

EGC 6468 PSYCHOSOCIAL DISABILITY IN REHABILITATION COUNSELING
PR: EGC 5725. Personal, social, and vocational consequences of emotional and social disabilities.

EGC 6494 SEMINAR IN PRINCIPLES AND PRACTICES OF REHABILITATION COUNSELING II
PR: EGC 5493 and EGC 5850. Continuation of EGC 5493. Must be taken concurrently with EGC 6851. (S/U only.)

EGC 6566 GROUP WORK IN REHABILITATION COUNSELING
PR: CI. Examination of group processes as applicable to rehabilitation counseling.

EGC 6567 ADVANCED GROUP WORK IN REHABILITATION COUNSELING
PR: CI. Extension of EGC 6566 with emphasis on field work.

EGC 6727 INTERPERSONAL ASPECTS OF REHABILITATION COUNSELING II
PR: EGC 5725. An extension and intensification of skills developed in EGC 5725.

RELIGIOUS STUDIES

Chairperson: W. C. Tremmel; Coordinator of Ancient Studies: A. M. Gessman; Professors: A. M. Gessman, W. C. Tremmel; Associate Professor: J. F. Strange; Assistant Professors: D. E. Bassuk, T. J. Burns; Instructor: E. E. Smith.

UNDERGRADUATE COURSES

GRE 3040 NEW TESTAMENT GREEK I

GRE 3041 NEW TESTAMENT GREEK II

REL 3000 INTRODUCTION TO RELIGION
An examination of the phenomenon of religion, which will include (1) an examination of why people do religion; (2) an examination of the character of theology, with special attention to certain basic theological concepts such as God, sin, salvation, liberation, reincarnation, immortality, theism, atheism; (3) an analysis of the character of religious ritual in its metatechnological, sacramental, and experimental forms; and (4) an examination of the place and character of moral systems in religion.

REL 3045 DIALOGUES IN RELIGION
A course designed to place in dialogic encounter various aspects of contemporary religious beliefs and practices for the purpose of enabling students to hear and participate in discussions concerning the claims and procedures of existing religions.

REL 3120 RELIGION IN AMERICA
To examine the movement from state church to pluralism in American religious institutions, the religious results of non-Protestant immigration; the Jewish factor; the effect of home missions and social concern programs upon American life; political entanglements and the concept of church/state separation.

REL 3131 NEW RELIGIONS IN AMERICA
A course designed to allow the student to survey the wide spectrum of contemporary sects and cults and learn what motivates their development.

REL 3132 THE BLACK CHURCH
A critical examination of the Black Church will be made in this course. The significance of religious development and the present condition of Black religious institutions and their relationships to modern movements will be examined. Denomina-tional, interdenominational, and international caucuses will also be examined for their particular religious, political, economic, social, and ideological significance.

REL 3133 BLACK RELIGIOUS EXPERIENCE IN AMERICA
A course designed to stimulate interest in the religious history, experience, and thinking of American Blacks.

REL 3145 WOMEN AND RELIGION
An analysis of the status and roles of women as compared to men in the Judeo-Christian tradition. Contemporary issues raised by feminist theologians and scholars and the controversies surrounding them, including the ordination of women; type of language and imagery used in religious literature; religious attitudes toward sex roles and female sexuality; implications of the religious tradition for men as well as women. (Also offered under Women's Studies.)

REL 3201 LAND OF THE BIBLE
A survey of the natural features, historical forces, and cultural movements of the Holy Land that shaped its peculiar role in history with respect to the ancient Hebrews. Particular attention will be paid to the period from the Hebrew Conquest to the time of Jesus.

REL 3210 INTRODUCTION TO THE OLD TESTAMENT
An introduction to the critical study of the Hebrew Scriptures against the background of the ancient Near East, with attention to the history and religion of the Hebrew people. REL 3210 and REL 4221 may not both be credited toward the major.

REL 3243 INTRODUCTION TO THE NEW TESTAMENT
An introduction to the critical study of the New Testament in context of Christian beginnings in the first century A.D. REL 3243 and REL 4244 may not both be credited toward the major.

REL 3280 BIBLICAL ARCHAEOLOGY
An examination in depth of the archaeological data relating to the background and content of the Bible, including ancient customs, Biblical sites and cities, Biblical history, and material culture of the Biblical period. Special attention will also be given to excavation methods and interpretation of archaeological evidence.

REL 3310 WORLD RELIGIONS—EASTERN
An introduction to and a comparison of the ideas, the literature, the institutions of the major religions of the Eastern World, espe-
REL 3320 WORLD RELIGIONS—WESTERN (5)
An introduction to and a comparison of the ideas, the literature, the institutions of the major religions of the Western (Near Eastern origin) World—Judaism, Zoroastrianism, Christianity, and Islam. And a general comparison of Western religious ideas with Eastern religious ideas.

REL 3332 BUDDHISM (5)
The study and comparison of Theravada and Mahayana Buddhism in their philosophical and psychological dimensions.

REL 3335 RELIGIONS OF CHINA AND JAPAN (4)
This course will investigate the philosophy of ancient China and its two major interpreters, Lao Tzu and Confucius. It will also look at the native Japanese Shinto religion.

REL 3342 THE RELIGIONS OF INDIA (4)
The sources of Hindu philosophic thought, an understanding of the psychology of the Yogas, and a study of the Hindu holy men and women are the three main concerns of this course.

REL 3421 CONTEMPORARY RELIGIOUS THOUGHT (4)
An examination of the central ideas of recent theological thinkers; such men as Barth, Brunner, Bultmann, Bonhoeffer, Rahner, Tillich, Cox, Alzter, Buber, Niebuhr.

REL 3501 HISTORY OF CHRISTIANITY I (4)
The historical development of Christianity, its ideas and institutions, from the first century to the sixteenth century.

REL 3502 HISTORY OF CHRISTIANITY II (4)
The historical development of Christianity, its ideas and institutions from the work of John Wycliff to the rise of “religious modernism” in the 19th century.

REL 3610 HISTORY OF JUDAISM (4)
The historical development of Judaism and Jewish concepts from Biblical times to the modern era with emphasis on the formative years from the Prophets to the close of the Talmud.

REL 3612 MODERN JUDAISM (3)
A study of Jewish life in the West since 1789, emphasizing Jewish beliefs, practices, and institutions.

REL 3900 DIRECTED READINGS (1-5)
PR: CI. Individual guidance in concentrated reading on a selected topic.

REL 3936 SELECTED TOPICS (1-5)
PR: CI. Course contents depend on students’ needs.

REL 4141 RELIGIOUS BEHAVIOR AND INSTITUTIONS (4)
PR: One course in sociology or social psychology or CI. The sources of religious social thought, an understanding of the historical evolution of religious thought about society, and an analytical grasp of the way in which religious insights and values relate to human societal life are the three main objectives of this course.

REL 4158 RELIGION AND DEPTH PSYCHOLOGY (4)
PR: One psychology course or CI. This course is designed to enhance the student’s understanding of human existence by investigating the interrelationships between human dynamics and religion.

REL 4182 COMPARATIVE MYSTICISM (4)
A course designed to acquaint the student with the nature of mystical experience, and some of the varieties of mystical experience recorded in the writings of the mystics.

REL 4221 BIBLE I: LAW (4)
An examination of the Pentateuch or Torah from the point of view of its literary development, internal traditions, historical background, Law, covenant theology, and Hebrew religion.

REL 4224 BIBLE II: PROPHETS (4)
PR: REL 3210 or REL 4221 or CI. An investigation of the Prophetic literature of the Hebrew Scriptures including the emergence of mantic prophecy in Elijah and Elishah, classical proph-

ecy in Jeremiah, Micah, Amos, and Isaiah, the later twelve prophets, and the role of Samuel and the Book of Kings.

REL 4228 BIBLE III: WRITINGS (4)
PR: REL 3210 or REL 4221 or CI. An exploration of the poetic and historical writings in the Hebrew canon including the Psalms, Wisdom Literature, Job and the problem of evil, the Five Scrolls, Daniel and apocalypticism, and the religious views of the Chronicler.

REL 4244 NEW TESTAMENT STUDIES I (Gospels) (4)

REL 4250 JESUS’ LIFE AND TEACHINGS (4)
PR: CI. An examination of the various historical studies made in the quest of identifying Jesus as an historical figure. The concern is to make a reasonable assessment of who Jesus was and what he was saying to the Jews in Palestine at the beginning of the common era.

REL 4252 NEW TESTAMENT STUDIES II (Pauline Letters) (4)
An investigation of earliest Christianity in its Jewish and Gentile forms, the historical Paul, his proclamation, and his letters as preserved in the New Testament.

REL 4256 NEW TESTAMENT STUDIES III (Later Letters and Revelation) (4)
An examination of the emergence of institutional Christianity in the New Testament, particularly in churchly theology, the Pastoral Epistles, the catholic Epistles, the letters of James and John, and finally Christian apocalypticism in the book of Revelation (Apocalypse).

REL 4295 DEAD SEA SCROLLS (4)

REL 4910 UNDERGRADUATE RESEARCH (1-5)
PR: Junior standing and CI. Individual investigations with faculty supervision.

REL 4931 SEMINAR IN RELIGION (4)
A course designed for persons, especially Religious Studies majors, whose prior religious studies have prepared them for a cooperative creative and/or research effort in the area of religion.

REL 4936 SELECTED TOPICS (1-5)
PR: Junior standing and CI. Individual investigations with faculty supervision.

REL 5937 SELECTED TOPICS (1-5)
PR: Senior standing and CI. Course contents depend on students’ needs.

GRADUATE COURSE

Ancient Studies Sequence

UNDERGRADUATE COURSES

CLA 3000 ANCIENT CIVILIZATIONS (5)
Study of the character, ideas, and cultural achievements of the peoples of the Ancient Middle East and Mediterranean and their relevance for modern Western civilization.

CLA 3801 HISTORY OF ALPHABET (2)
Study, in reasonable detail, of the evolution of our ‘Roman’ alphabet, as well as of other ancient and modern alphabets, from the writing system of ancient Egypt.

CLA 3851 MID-EASTERN MYTHOLOGY (3)
Study of the more important myths and religious concepts of Egypt, the Fertile Crescent, Crete, Anatolia, and Persia, and of...
their impact on the Hebrew and Graeco-Roman mythologies as well as on later Western art, literature, and religion.

**CLA 4100 GREEK CIVILIZATION**

(4)

Detailed study of the Aegean and Greek civilizations from their beginning in Crete and Mycenaean to the Roman period. Greek discoveries, explorations, and colonization. (Alternate years.)

**CLA 4120 ROMAN CIVILIZATION**

(4)

Prehistoric Italy and the Etruscan civilization. History of the civilization of Rome and the Empire with emphasis on the Etruscan, Greek, Carthaginian, and Mid-Eastern influences. (Alternate years.)

**CLA 4160 EGYPTIAN CIVILIZATION**

(4)

Study of the Ancient Egyptian civilization, including customs, religion, art and architecture, language and literature, science and the calendar, and an introduction to hieroglyphic writing. (Alternate years.)

**CLA 4171 MESOPOTAMIAN CIVILIZATION**

(4)

Study of the Ancient Mesopotamian (Sumero-Babylonian) civilization, including customs, religion, art and architecture, languages and literatures; science and the calendar, and an introduction to cuneiform writing. (Alternate years.)

**CLA 4900 DIRECTED READINGS**

(2-5)

PR: Consent of coordinator prior to registration. Readings in special topics chosen by the student in cooperation with the instructor. Reading of literature also possible in English translation.

**CLA 4930 SELECTED TOPICS**

(2-5)

Course contents depend on student demand and instructor’s interest and may range over the whole field of Ancient languages, literatures, and civilizations. Offerings on a semi-regular basis include Tongues of the Bible (2), The Bible as History (4), Basic Sanskrit (3,3,3) and Old Church Slavonic (5).

**SOCIAL SCIENCES (INTERDISCIPLINARY)**


**UNDERGRADUATE COURSES**

**LEI 4163 LEISURE IN SOCIETY**

(4)

Facts and trends of changing leisure-time patterns in the USA and other countries; various conceptualizations of leisure; relationships of non-work time to work attitudes, personality, family, community, sub-cultures, religion, value systems, social class, and the functions of government.

**LEI 4167 SPORT IN SOCIETY**

(4)

An examination of the broad issues concerning sport in both a historical and contemporary perspective. Sport will be viewed in relation to social institutions, economic considerations, mass media, and the sport group as a micro-social system.

**SS1 3151 PSYCHOLOGY AND THE SOCIAL ORDER**

(4)

Topics to be selected from the following: the quest for personal identity in modern mass society, the problems of mass culture and mass education, the problems of alienation and anomie in the 20th century, psychological factors in political and industrial conflict; man versus the machine in modern life.

**SS1 3152 COMMUNICATION**

(4)

Topics selected from the following: the language of structure, general semantics, communication networks, language and social perception, diffusion of information, communication and social gamesmanship, Aesopian language and Nu-Think in politics, normative language of clinical psychology, communication and pseudo events, non-verbal communication.

**SS1 3153 HUMAN RELATIONS AND PRODUCTIVITY**

(4)

Topics to be selected from the following: the relation of science, technology, resources, energy, and population change to social, economic, cultural, and political change; social implications of research findings from the social, behavioral, and management sciences.

**SS1 4162 THE CITY AND MAN**

(4)

Topics to be selected from the following: the city and its ills; proposed new types of community formation; planning and community; the social ecology of the city; conventional versus innovative approaches to the problems of the community.

**SS1 4164 SOCIAL ISSUES OF OUR TIME**

(4)

Topics to be selected from the following: automation and cybernation and the social problems they generate; special problems of a technological civilization; the implications of changing social patterns of Western culture and opportunities for social re-construction.

**SS1 4168 SOCIAL VALUES AND SOCIAL ORDER**

(4)

Topics to be selected from the following: the value-patterns of modern societies; social bases for a world order; the aims and functions of social planning; international transformation created by science and technology.

**STA 3122 SOCIAL SCIENCE STATISTICS**

(4)

Topics selected from the following: measures of central tendency and variability probability and the normal curve, correlations, curve fitting, scale and index number theory, polling, interview and survey techniques, content analysis. Students who successfully complete this course may not also receive credit for either GEB 2111, Business and Economic Statistics 1 or STA 3023, Introductory Statistics I.

**GRADUATE COURSES**

**SS1 5934 SELECTED TOPICS**

(1-4)

PR: CI plus senior standing or graduate status. May be repeated. To provide advanced students with interdisciplinary study of selected topics.
SSI 6900 DIRECTED READINGS (1-4)
PR: CI and graduate standing. May be repeated. To provide graduate students with an intensive reading of interdisciplinary nature in areas of specific interest.

SSI 6910 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

SOCIAL WORK

Director: P. L. Smith; Associate Professor: P. L. Smith; Assistant Professors: W.S. Hutchison, P. A. Maass, B. L. Yegidis; Visiting Assistant Professor: R. L. White; Visiting Instructors: H. L. Cohen, A. J. Floyd, D. Rains

UNDERGRADUATE COURSES

SOW 3203 INTRODUCTION TO SOCIAL WELFARE (4)
An introductory course in social welfare policy, emphasizing the conceptual basis of social policy formulation, the historical development of social welfare organizations, and various processes related to social policy implementation. Attention is given to economic, political, and social analysis of the development of American social welfare institutions.

SOW 3302 THEORY & PRACTICE OF SOCIAL WORK I (4)
An introductory course to the profession and practice of social work, emphasizing the theoretical and value bases of social work practice. Required prerequisite for admission to the Social Work Program. Some agency volunteer experience required.

SOW 3403 RESEARCH METHODS IN SOCIAL WORK (4)
PR: STA 3122. Restricted to social work majors, others by Program permission. Methods and techniques of social research specifically for social work majors, emphasizing design of studies, collection of data, and interpretation of results. Attention is given to understanding and analyzing specific pieces of research relating to social work.

SOW 4102 BEHAVIOR, ENVIRONMENT, AND PRACTICE (4)
PR: HUS 4020. Restricted to social work majors, others by Program permission. An integrated human behavior-social environment course emphasizing dynamics of behavior and environmental factors as they relate to social work practice. Attention is given to application of knowledge of behavioral phenomena to the practice situation.

SOW 4232 SOCIAL WELFARE: SYSTEMS AND POLICIES (4)
PR: SOW 3203. Restricted to social work majors, others by Program permission. Advanced social welfare policy course emphasizing contemporary social welfare policies, structures, functions, and programs.

SOW 4341 MULTI-METHODS OF SOCIAL WORK PRACTICE I (5)
PR: HUS 4020, SOW 3203, SOW 3302. SOW 3403 and SOW 4102 may be taken as CR or PR. Restricted to social work majors, others by Program permission. First in a sequence of three practice courses emphasizing the beginning development of skills from practice knowledge. Intervenive methods with individuals, families, and small groups are emphasized. Some agency field work required.

SOW 4343 MULTI-METHODS OF SOCIAL WORK PRACTICE II (5)
PR: SOW 4341. SOW 4232 may be taken as a CR or PR. Restricted to social work majors, others by Program permission. Second practice course emphasizing interventions at the community and institutional levels. Builds upon a theoretical and practical content of SOW 4341. Some agency field work required.

SOW 4361 THEORY AND PRACTICE OF SOCIAL WORK II (4)
PR: Completion of all social work core courses (or concurrent with completion) except SOW 4510. Restricted to social work majors in Senior year. Others by permission. A course exploring the contributions of the social/behavioral sciences to social work. Attention is given to various components of social work as objects of analysis in the context of various social science disciplines.

SOW 4510 FIELD PLACEMENT (15)
PR: Completion of all social work core courses except SOW 4361. Restricted to social work majors in Senior year. Supervised field placement in a social welfare organization consisting of 35 hours per week in the field and 3 hours per week in an integrated practice seminar which constitutes the third and final course in the practice sequence.

SOW 4900 DIRECTED READINGS (2-8)
PR: Completion of four social work courses including SOW 3403, upper division standing, and Program permission. Content dependent upon student interest and ability. A contract will be jointly developed by student and instructor specifying nature of work to be completed and approved by Program Director. May be repeated up to 12 credit hours.

SOW 4930 VARIABLE TOPICS IN SOCIAL WORK (2-4)
PR: SOW 4341. Restricted to Social Work majors, others by Program permission. Course is taken as an elective. Variable title courses will selectively expand on the four sequence areas in the Social Work core curriculum (Social Welfare Policy and Services, Social Work Practice, Social Research Courses, and Human Behavior and Social Environment) and focus more minutely on specific areas relevant to the student's educational plan. May be repeated in varying topical areas.

SOCIOLOGY


UNDERGRADUATE COURSES

DHE 4101 POPULATION (4)
PR: SOC 2000 or CI; upper division standing. Sociological determinants of fertility, morality, and migration; theories of population change.

MAF 2001 MARRIAGE (4)
Study of pre-marital and marital relations. Social, cultural, and personal factors related to success and failure in mate selection and marriage. Does not count for sociology major credit.

MAF 3501 THE FAMILY (4)
PR: SOC 2000 or CI. Principles of family organization, social adjustment, and control. Maturation, socialization, and stability of the family.

SOC 1020 CONTEMPORARY SOCIAL PROBLEMS (4)
Application of sociological concepts and principles to the description and analysis of major social problems of modern societies. Does not count for sociology major credit.
SOC 2000 INTRODUCTION TO SOCIOLOGY (4)
Nature and application of sociological concepts, theories, and methods; analysis of societies, associations and groups; social processes and social change.

SOC 2484 CAREERS IN SOCIOLOGY (2)
PR: One course in sociology. An examination of sociology as a career base and as a basis for general education. Employment opportunities, occupational skills taught in the several courses, and other useful aspects of sociology will be discussed. Description of the several subfields of specialization and a brief introduction to the courses taught in the department will lead to the student's making a tentative program schedule for his major. The value of sociology to the individual as a self-actualizing person of unique worth will be stressed. (S/U only.)

SOC 3211 SOCIOLOGY OF RELIGION (4)
PR: SOC 2000 or CI. Types, sources, and functions of religious behavior. Religious behavior in relation to other aspects of personality and culture.

SOC 3410 SOCIAL STRATIFICATION (4)
PR: SOC 2000 or CI. Social status and social stratification, social class as a factor in behavior, social mobility.

SOC 3422 SOCIAL ORGANIZATION (4)
PR: SOC 2000 or CI. Social organization in the broadest sense, including institutions and associations, as well as variations in role and status.

SOC 3500 SOCIAL INVESTIGATION (4)

SOC 3612 FOUNDATIONS OF THEORY (4)
PR: SOC 2000 or CI. Consideration of selected theories in sociology and procedures of systematic theory construction.

SOC 3695 COMMENTARY FILM MAKING IN THE SOCIAL SCIENCES (4)
PR: Major in the College of Social and Behavioral Sciences and CR in an upper division course. For students majoring in some other college, approval by major professor and instructor of course are both required, but concurrent registration in one of the social and behavioral science courses is maintained. The consideration of the theoretical and technical requirements for expressing social science concepts and propositions on film. Film planning, camera techniques, editing silent film, and the utilization of the independent sound (tape cassettes) in the commentary film. Ethics of film making.

SOC 3696 LABORATORY WORK IN COMMENTARY FILM MAKING IN THE SOCIAL SCIENCES (2)
PR: SOC 3695, CR in a course in the social and behavioral sciences with instructor's approval to enable student to make a film in lieu of some other course requirement. A continuation of lab and field work in the making of commentaries films. Camera, editorial and problems of independent sound solved in the context of making a film in one of the social sciences. Does not count for sociology major credit. May be repeated for a maximum of six credits. (S/U only.)

SOC 3745 RACIAL AND ETHNIC RELATIONS (4)
PR: SOC 2000 or CI. Comparative study of interracial relations, social tensions, attitudes, and modes of adjustment in various areas of the world.

SOC 3800 SOCIAL PSYCHOLOGY (4)
PR: PSY 2012 or SOC 2000. Behavior of the individual human being as affected by social and cultural influences of modern society.

SOC 4130 JUVENILE DELINQUENCY (4)

SOC 4150 CRIMINOLOGY (4)
PR: SOC 2000 or CI: upper division standing. Etiology of criminal behavior, law enforcement, crime in the United States; penology and prevention.

SOC 4221 POLITICAL SOCIOLOGY (4)
PR: SOC 2000 or CI. An examination of the social factors that affect government, politics, and political behavior.

SOC 4261 SOCIOLOGICAL IMPLICATIONS OF INDUSTRIALIZATION (4)
PR: SOC 2000 or CI. Socio-cultural elements which define and accompany the process of industrialization as observed in mature industrial nations.

SOC 4316 URBAN SOCIOLOGY (4)
PR: SOC 2000 or CI; upper division standing. The social structure of the community in modern industrial societies. Analysis of community change.

SOC 4402 SOCIETY IN TRANSITION (4)
PR: Introduction to Sociology and upper level standing. An analysis of the forces for change in contemporary society, utilizing a sociological perspective.

SOC 4531 COMPUTERS IN SOCIOLOGICAL RESEARCH (3)
PR: SOC 3300 and STA 3122 or equivalent. Introduction to the uses of computers in sociological research. Major emphasis is upon the use of statistical packages (principally SPSS) in data analysis.

SOC 4651 SOCIOLOGY OF THE ARTS (4)
PR: SOC 2000 or CI; upper division standing. The creation, distribution and use of arts from a sociological perspective; the social roles involved.

SOC 4850 COLLECTIVE BEHAVIOR (4)
PR: SOC 2000 or CI; upper division standing. Study of the development of group and mass behavior—crowds, social movements.

SOC 4910 INDIVIDUAL RESEARCH (1-4)
PR: Four courses in sociology, including SOC 3500, upper division standing or CI. Content dependent upon interest and competence of student. A contract specifying the work to be done must be completed and signed by both the student and the faculty member and filed with the chairperson of the department before registration for this course will be permitted. Repeatable. Does not count for sociology major credit.

SOC 4930 TOPICS IN SOCIOLOGY (4)
PR: 16 quarter hours in Sociology and prior CI. May be repeated for credit. See class schedule for content.

SOC 4935 SENIOR SEMINAR (4)
For seniors majoring in sociology or other social sciences. Major issues in sociology, stressing theory and research.

GRADUATE COURSES

MAF 6621 FAMILY ANALYSIS (4)
PR: Course in Family or CI. Theory of interpersonal relations and interaction in the modern family. Analysis of functions and roles.

SOC 5265 INDUSTRIAL SOCIOLOGY (4)
PR: SOC 2000 or CI; upper division standing. Interaction, communication and authority in economic organizations; the factory as a social system.

SOC 5405 SOCIAL CHANGE (4)
PR: SOC 2000 or CI; upper division standing. Major theories of social and cultural change, and mechanisms of change in various societies.

SOC 5804 SOCIAL INTERACTION (4)
PR: SOC 3800 or CI; upper division standing. Interpersonal influence, complex behavior, role, conflict, and social situational factors.

SOC 5825 SOCIOLOGY OF SMALL GROUPS (4)
PR: SOC 2000 or CI; upper division standing. Theory of small group structure, mechanics of interaction, observation of small groups.
SOC 6106 DEVIANCEn & CONTROL (4)
PR: Course in criminology or juvenile delinquency or CI. Theories of control and deviance with research application in problem areas.

SOC 6302 COMMUNITY ANALYSIS (4)
PR: Course in Urban Sociology or CI. Theories of community and community organization. Methods of community study; problems of urban areas.

SOC 6426 COMPLEX ORGANIZATIONS (4)
PR: Course in Social Organization or CI. Organizational theory, bureaucratic models, authority, power legitimation, and types of formal organization.

SOC 6502 METHODS OF RESEARCH (4)
PR: Course in Social Investigation or CI. Logic and practice of research; problems of observation and data collection, data processing, and evaluation.

SOC 6526 SOCIOLOGICAL STATISTICS (5)
PR: STA 3122 or CI. Logic and application of parametric and nonparametric statistical analysis for sociological data.

SOC 6606 CONTEMPORARY SOCIOLOGICAL THEORY (4)
PR: Undergraduate course in sociological theory or CI. Emphasizes logical and conceptual dimensions of theory and theory construction.

SOC 6699 THE COMMUNICATION OF SOCIOLOGY (2)
PR: SOC 6502, SOC 6526, SOC 6606, or CI. Designed to help students define and formalize more effective efforts at communicating sociology. Majors only.

SOC 6805 SOCIAL PSYCHOLOGY SEMINAR (4)
PR: Course in Social Psychology or CI. Stresses contemporary developments in social psychological theory and empirical research.

SOC 6909 INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

SOC 6912 DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

SOC 6933 SPECIAL TOPICS-SOCIOLOGY (4)
PR: CI. Content varies according to interests of students and instructor. May be repeated for credit.

SOC 6971 THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

**SPEECH COMMUNICATION - see Communication**

**THEATRE**

**Chairperson:** N. Cole; **Professor:** P. B. O'Sullivan; **Associate Professors:** J. W. Belt, D. Calandra, N. Cole, W. A. Lorenzen, P. Massie; **Instructors:** C. Doud, D. K. Williams; **Lecturers:** M. A. Bentley; **Visiting Lecturer:** L. Kotler; **Courtey Lecturer:** E. Schreiber; **Teaching Affiliates from the Fine Arts Events:** P. Finelli, E. Mecham, D. Tschetter.

**UNDERGRADUATE COURSES**

**THE 2020 THEATRE FUNDAMENTALS** (2)
An introduction to the means and materials of theatre, the nature of theatre forms, the concepts of Total Theatre, and the basic issues in American theatre today. This course is open to non-majors and theatre majors should take this course concurrently with their first registration in the group of courses TPA 2200, TPA 2223, TPA 2110. Required of all theatre majors.

**THE 3080C MODERN THEATRE PRACTICE** (5)
Initial readings and exercises in theatre; play analysis, performance, and technical theatre for non-theatre majors.

**THE 3110 THEATRE HISTORY I** (3)
A survey of significant periods in world theatre from the beginning up to 1700. Six selected representative plays will be read. Required of all theatre majors. Open to non-majors.

**THE 3111 THEATRE HISTORY II** (3)
PR: THE 3110 or equivalent or CI. A survey of significant periods in world theatre from 1700 to the present. Six selected representative plays will be read as well. Required of all theatre majors. Open to non-majors.

**THE 3925 PERFORMANCE** (1)
The rehearsal, construction and production of major theatrical works. Concurrent registration in this course is expected of all students who are enrolled in courses carrying an ACP (Advanced Course Production Involvement). Assignments are made contractually at the time of registration. Open to non-majors on a credit or non-credit basis. May be repeated up to 12 times. (Six ACPs required of all theatre majors.)

**THE 4180 THEATRE ORIGINS** (5)
PR: Completion of first three years as a theatre major and one from the following: THE 4320, THE 4330, THE 4370, THE 4401, THE 4442, THE 4480, or CI. An analysis of the development of theatre out of myth, ritual, and liturgy. Emphasis will be placed on what subsequent attempts to understand the resulting phenomena can teach us about the nature of our art. Required of all theatre majors.

**THE 4264 HISTORY OF CLOTHING** (2)
PR: Completion of 2000-level theatre laboratory requirements for theatre majors or CI. Required of all theatre majors with a design and technology concentration. A survey of clothing and dress from Ancient Egypt to the 20th Century with an emphasis on cultural and social influences.

**THE 4266 HISTORY OF ARCHITECTURE AND DECOR** (3)
PR: Completion of 2000-level theatre laboratory requirements for theatre majors or CI. The survey of architectural and decorative motifs and decor and their stylistic concepts. Required for majors in Design-Tech track.

**THE 4320 THE THEATRE OF MYTH AND RITUAL/NORTHERN EUROPEAN (950-1600) AND ORIENTAL (400-1800)** (4)
PR: THE 3110 or THE 3111. An investigation into the interrelationship of myth, ritual, and theatre event. Enables the student to analyze these scripts in light of their present productivity and past cultural energy. Open to non-majors.

**THE 4330 SHAKESPEARE FOR THE THEATRE** (4)
PR: THE 3110 or THE 3111 (for theatre majors). Study of several of Shakespeare's plays from the histrionic point of view. "No sort of study of a (Shakespearean) play can better the preparation of its performance if this is rightly done."—Harley Granville-Baker. Open to non-majors.

**THE 4370 THE 19TH CENTURY THEATRE REVOLUTION** (4)
Survey of materials in the Continental, English, & American Stage dating from 1870. Deals with the extraordinary playwrights and new theatre movements.

**THE 4401 O'NEILL AND AFTER** (4)
PR: THE 3110, THE 3111, or CI. Survey of materials in the American Theatre from the writings of Eugene O'Neill to the present.

**THE 4442 THE COMEDY OF THE CLASSIC AND NEO-CLASSIC STAGE** (4)
PR: THE 3110, THE 3111, or CI. A course in the function of the script of the active theatre artist, treating materials from the An-
cient Greeks through the Restoration, giving some attention to later reflections.

THE 4480 DRAMA — SPECIAL TOPICS (4)  
PR: THE 3110, THE 3111, or CI. A course in the function of the script for the active theatre artist treating materials of a single playwright. Repeatable with consent of adviser and change in topic. Only four hours will be counted toward major requirements, but other hours may be counted toward elective.

THE 4562 SENIOR COLLOQUIUM IN THEATRICAL CREATIVITY (3)  
PR: THE 4180. A colloquium in the nature of the synthesized theatre object. Required of all theatre majors. Open to non-majors with CI.

THE 4900 DIRECTED READING (1-6)  
PR: CI and CC. Readings in a topic of special interest to the student. Selection of topic and materials must be agreed upon and appropriate credit must be assigned prior to registration. A contract with all necessary signatures is required for registration. May be repeated for credit for different topics only.

THE 4905 DIRECTED STUDIES (1-6)  
PR: CC. Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 4927 ADVANCED PERFORMANCE (1)  
PR: THE 3925 or CI. The study, rehearsal, and performance of major theatrical works. Admission by audition. May be repeated. Additional credit may be earned with THE 4905 or THE 5909.

THE 4930 SELECTED TOPICS IN THEATRE (1-12)  
PR: CI. The content of the course will be governed by student demand and instructor interest. May be lecture or class discussion or studio format. May be repeated for credit for different topics only.

TPA 2200 STAGECRAFT (3)  
The scenic materials and skills basic to theatrical production. An introductory course. Has a production commitment. Required of all theatre majors. Open to non-majors.

TPA 2223 STAGE LIGHTING AND COSTUME (3)  
The fundamental materials and skills used in lighting and costuming stage productions. May be used as a theatre lab requirement for majors. Open to non-majors.

TPA 2250 WORKSHOP IN STAGE MAKEUP (1)  
Beginning theory and practice in makeup for the stage. Theatre majors given preference. A studio course. Required for theatre majors.

TPA 2400 THE ART OF MANAGING THE ARTS (3)  
An overview of the administrative role required in the arts — examining all media in their historic and topical references. The course will survey the basic areas of administrative, production and stage management. May be used as a theatre lab requirement for theatre majors. Open to non-majors.

TPA 3086 MEANS OF VISUAL EXPRESSION (4)  
PR: Completion of the four 2000-level courses. The study of presentation techniques for visual design and technology as applied to the development of visual dynamics. Required of all theatre majors. Open to non-majors with CI.

TPA 3601 STAGE MANAGEMENT (3)  
PR: Completion of a lower level concentration in theatre. A practical course in the working organizational function of the stage manager in theatre, dance, opera, and other live performance situations. Required of all theatre majors.

TPA 3810 INTRODUCTION TO PUPPETRY (4)  
PR: Completion of all four 2000-level courses. Open to non-majors with CI. Principles and methods of puppetry with a historical survey of major forms and practical problems with laboratory production.

TPA 3820 PUPPETRY PRODUCTION (4)  
PR: TPA 3810. Open to non-majors with CI. The creation, building, and rehearsal of plays for puppet theatre in preparation for performance. It is strongly urged that members of this class enroll in Puppetry Performance in the quarter immediately following. May be repeated one time for additional elective credit, with CI, to a total of eight hours.

TPA 3840 PUPPETRY PERFORMANCE (4)  
PR: TPA 3820. Open to non-majors with CI. Experience in the production and presentation of puppet for the puppet theatre. Follows directly from the course in Puppetry Production and must be taken the quarter immediately following that course. May be repeated one time for additional elective credit, with CI, to a total of eight hours.

TPA 4010, 4011 DESIGN I AND DESIGN II  
(COSTUME, SCENERY, AND LIGHTING) (4,4)  
PR: THE 4266 and THE 4264 plus TPA 4230, or TPA 4285, or TPA 4211, depending on tech-design emphasis. The aesthetic and practical application of the elements of design in lighting, scenery, and costume for theatre presentation.

TPA 4012 PROJECT DESIGN: HONORS (4)  
PR: At least two sections of TPA 4010 and one section of TPA 4011. A workshop for students in scenery, lighting, and costume design admitted only by recommendation of instructor and review of portfolio. Consideration will be given to the requirements of integrating the design for setting, costumes, and lights, under special circumstances may be credit for actualized production design.

TPA 4052 DRAWING — FIGURE (2)  
PR: Completion of second year requirements for the theatre major and portfolio or CI. Drawing the human form and fabrics with an emphasis for the costume designer.

TPA 4071 DRAWING — ARCHITECTURAL (2)  
PR: Completion of 2000-level theatre laboratory requirements for theatre majors and portfolio or CI. A course in rendering the inanimate form.

TPA 4081 SCENE PAINTING (2)  

TPA 4083 SPECIAL PROJECTS FOR PRODUCTION (2)  
PR: THE 4264, THE 4266, plus any three of TPA 4052, TPA 4071, TPA 4211, TPA 4230, TPA 4285. An individually designed course of study tailored for the student's advanced work in technology and design.

TPA 4211 STAGECRAFT II (4)  
PR: For theatre majors, completion of 2000-level theatre laboratory requirements, including TPA 2200. A practical course in drafting for the stage and scene construction and application. A requirement in the Tech Design track/Scenic. Open to non-majors.

TPA 4230 COSTUME CONSTRUCTION I (2)  
PR: Completion of 2000-level theatre laboratory requirements for theatre majors or CI. A practical course in costume drafting of workable patterns for costing the actor.

TPA 4231 COSTUME CONSTRUCTION II (2)  
PR: TPA 2223 or CI. Materials, skills and techniques for construction of costume accessories for stage. Included topics are millinery, footwear, jewelry, masks, armor, corsetry, both period and modern.

TPA 4240 STAGE PROPERTIES: TECHNIQUES AND MATERIALS STUDIO (2)  
Demonstration and experience with comparatively newer materials used in construction of stage properties. Modeling of prototypes and basic casting techniques. Organization of shop.

TPA 4281 PRACTICUM IN TECHNICAL SUPERVISION (2)  
TPA 4285 AUDIO-VISUAL APPLICATIONS FOR THE STAGE  
PR: Completion of 2000-level theatre laboratory requirements for theatre majors, including TPA 2223. A study of basic electrical and electronic systems of sound and light control. Optical principles of projection and light transmission will be included to establish skills in the use of projected scenery. Analysis of amplification and recording techniques and technology, and the study of acoustical characteristics will prepare the student for a design of production sound systems. Open to non-majors.

TPA 4402 THEATRE MANAGEMENT WORKSHOP  
PR: Completion of an upper level concentration in theatre. The study of management relations for the theatre, including all fields of management from box office to publicity.

TPP 2110 VOICE IMPROVISATION  
Exploring the elements basic to acting skills—a participation course. May be used as a theatre lab requirement for majors. Open to non-majors.

TPP 2500 BODY DISCIPLINES  
A laboratory course in various disciplines or systems in controlling and understanding the body's motive powers. Mime, pantomime, combat forms, meditational exercises useful for the stage performer will be studied. May be used as a theatre lab requirement for theatre majors. Open to non-majors.

TPP 3111 WORKSHOP FOR TEXT ANALYSIS  
PR: Completion of the four 2000-level courses. The techniques of textual and script analysis related to the composition of performance. Required of all theatre majors. May be taken by non-majors with CI.

TPP 3121 IMPROVISATION I  
PR: Completion of all four 2000-level courses and/or CI; audition required. Open to non-majors. An intensive study in Improvisation as an enhancement of the actor's skills. Exercises and theatre games as flexible forms which accommodate improvisation and physical invention are examined and used to develop group creativity.

TPP 3122 IMPROVISATION II  
PR: TPP 3121 and/or CI; audition required. Open to non-majors. A concentrated study of advanced techniques in improvisational skills as applied to the use of scenario. Depending on ensemble capabilities, the course will culminate in a classroom improvisational presentation.

TPP 3235 THEATRE FOR SPECIAL AUDIENCES  
PR: Completion of all four 2000-level courses and/or CI. Open to non-majors. The preparation of a production for a special audience (ethnic, children, aged, institutionalized, etc.). Those enrolled would be expected to continue with TPP 3236. With CI, may be repeated one time as additional elective credit (total of eight hours).

TPP 3236 PERFORMING THEATRE FOR SPECIAL AUDIENCES  
PR: TPP 3235 (preceding quarter) and/or CI. The presentation of production for a special audience (ethnic, children, aged, institutionalized, etc.). Follows directly from TPP 3235 and must be taken in the quarter immediately following that course. With CI, may be repeated one time as elective credit (total of eight hours).

TPP 3510 SPECIAL SKILLS IN MOVEMENT  
PR: Completion of the four 2000-level courses. Stage violence, circus and acrobatic techniques, and other special techniques of movement. Repeatable for credit. Required for majors in the performance track.

TPP 3790L VOICE PREPARATION FOR THE ACTOR  
PR: Completion of the four 2000-level courses. A laboratory in corrective speech and voice production for the actor. Repeatable for credit. Required for majors in the performance track.

TPP 4140 SCENE STUDY III  
PR: TPP 4150 and audition or TPP 4151 or TPP 4152. Methodology and styles. Examination of the actor's craft and skills needed to fulfill the demands of various theatre forms. Special attention will be paid to the history of acting styles. Required of all theatre majors with a performance concentration.

TPP 4150 SCENE STUDY I  
PR: TPP 3111 and audition. Basic scene study. Special problems in movement and speech to be integrated with character development, rehearsal techniques, and performance composition. Required of all theatre majors with a performance concentration.

TPP 4151 SCENE STUDY II  
PR: TPP 4150 and audition or TPP 4140 or TPP 4152. Intermediate scene study. Special attention given to dialects and period movement. Required of all theatre majors with a performance concentration.

TPP 4152 SCENE STUDY IV  
PR: TPP 4150 and audition or TPP 4140 or TPP 4151. A workshop in the classic repertory. Advanced scene study. Required of all theatre majors with a performance concentration.

TPP 4180 SCENE STUDY V  
PR: TPP 4152. Honors section in acting; admittance by competitive audition. The aesthetics of acting. The various theories of the art. A studio course.

TPP 4220 AUDITION WORKSHOP FOR THE ACTOR  
PR: TPP 4140 and TPP 4151. Preparation for professional audition; discussion of professional objectives.

TPP 4230L LABORATORY WORKSHOP IN PERFORMANCE  
PR: TPP 3111 and/or CI. Special workshop in advanced techniques based upon individual problems and needs. May be repeated twice (to a total of 12 hours credit).

TPP 4250 MUSIC THEATRE WORKSHOP  
PR: TPP 3111. Special problems in acting as applied to the musical theatre.

TPP 4310,4311 DIRECTING II  
PR: Completion of the first two years as a theatre major and CI. An elective sequence in directing. A workshop course in which the student first encounters the basic tasks of the director by preparing and directing one or two scenes and then progresses to more complex scene work in a variety of styles and finally proceeds to the short play or theatre pieces.

TPP 4610,4611 WRITING FOR THE THEATRE II  
PR: Completion of the first two years as a theatre major and CI. An elective sequence in writing for the theatre, starting with explorations of theatre as a medium, exercises in theatre form and techniques and progressing to an advanced workshop in plays and other styles of theatre pieces.

TPP 4920 SENIOR WORKSHOP FOR ACTORS  
PR: TPP 4140, TPP 4151 and audition. A coaching workshop in individual problems. Enrollment requires contracted study.

GRADUATE COURSES

THE 5902 DIRECTED READING  
PR: CI and CC. Readings in topics of special interest to the student. Contract defining scope of project, materials used, expected results and credit hours assigned must be completed prior to registration. May be repeated for different topics.

THE 5909 DIRECTED STUDIES  
PR: CC. Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 5931 SELECTED TOPICS IN THEATRE  
PR: CI. The content of the course will be governed by student demand and instructor interest. May be lecture or class discussion or studio format. May be repeated for credit for different topics only.
WOMEN'S STUDIES PROGRAM

Director: J. Ochshorn; Professor: J. H. Williams; Associate Professor: J. B. Snook; Assistant Professors: M. M. Ferrandino, J. O. Ochshorn.

UNDERGRADUATE COURSES

ANT 4302 WOMEN IN CROSS-CULTURAL PERSPECTIVE (4)
PR: AN 2000 or ANT 3410, or CI. A cross-cultural perspective on women. The course focuses on various theories, models, and beliefs about male-female behaviors and interactions in human cultures throughout history and in various societies in the world today. (Also offered under Anthropology.)

EDF 4801 WOMEN AND THE EDUCATIONAL PROCESS (4)
PR: Junior standing recommended. Covers both the role women played in education in the U.S. and the way schools have helped to shape the role women play in American society. Topics include development of sex-role stereotypes through classroom interactions and curriculum materials, the status of women in public and higher education and laws affecting it, and the role of the schools in forming educational and career aspirations of girls and women. Emphasis is placed on ways parents and teachers may counteract the sex-typing which schools, as they are currently structured, perpetuate. (Also offered under Education.)

LIT 3414 THE IMAGE OF WOMEN IN LITERATURE I (5)
A study of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from Sappho through Shakespeare, with special emphasis on how this early literature has perpetuated cultural myths, rituals, superstitions, and misconceptions about women. (Also offered under English.)

LIT 3415 THE IMAGE OF WOMEN IN LITERATURE II (5)
A study of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from the 17th century to the present, with special emphasis on women writers and on the emergence of the women's movement. (Also offered under English.)

POS 4693 WOMEN AND LAW (4)
Issues concerning the legal aspects of sex and sex-based discrimination as embodied in statutory and case law. Open to majors and non-majors. (Also offered under Political Science.)

REL 3145 WOMEN AND RELIGION (4)
An analysis of the status and roles of women as compared to men in the Judeo-Christian tradition. Contemporary issues raised by feminist theologians and scholars and the controversies surrounding them, including the ordination of women; type of language and imagery used in religious literature; religious attitudes toward sex roles and female sexuality; implications of the religious tradition for men as well as women. (Also offered under Religious Studies.)

SOP 4742 PSYCHOLOGY OF WOMEN (4)
An examination of theories of female personality in historical perspective. Current research on sex differences, socialization, sexuality, psychology of reproduction. Emerging roles of women as related to social change and developmental tasks of the life cycle. (Also offered under Psychology.)

SOP 4772 HUMAN SEXUAL BEHAVIOR (4)
The dynamics of human sexuality including biological, constitutional, cultural, and psychological aspects. Exploration of the range of sexual behavior across groups. Sources of beliefs and attitudes about sex, especially female sexuality, current status. Interdisciplinary faculty. (Also offered under Psychology.)

WST 2010 INTRODUCTION TO WOMEN'S STUDIES I (4)
A survey of major issues relevant to the female experience: the women's movement; social, historical, and psychological implications.

WST 2011 INTRODUCTION TO WOMEN'S STUDIES II (4)
PR: WST 2010 or CI. A survey of major issues relevant to the female experience, marriage and the family, sexuality, the economy and professions, art and creativity.

WST 3210, 3220, 3240 WOMEN IN WESTERN CIVILIZATION (4)
PR: WST 2010 or CI. Comparative survey of women in Western civilization, with particular emphasis on those cultures, attitudes and practices which have emerged as most influential for the status of women as compared to men. WST 3210: Pre-Biblical period, ancient Near East, polytheism and monotheism; ancient Greece, Rome, early Middle Ages. WST 3220: Late Middle Ages, Renaissance, Reformation; Persecution of witches. WST 3240: The Enlightenment; colonization and political revolution and its impact on women; nineteenth and twentieth centuries.

WST 3270 CONTEMPORARY WOMEN IN THE UNITED STATES (4)

WST 3275 WOMEN IN THE DEVELOPING WORLD (4)
This course surveys the status of women in Asia, Africa, Latin and Caribbean America as compared to the USA, Canada, West Europe, and Marxist-Leninist countries. (Also offered under International Studies Program.)

WST 3310 HISTORY OF FEMINISM (4)
PR: WST 2010 or CI. The history of the feminist movement in the U.S. and Britain. Women in the rank-and-file of reform in America, including abolitionism, the settlement house movement, labor unions, political revolution in Western society, and Third World liberation. Sources and issues of the women's liberation movement.

WST 3320 WOMAN'S BODY/WOMAN'S MIND (4)
PR: Introduction to Women's Studies or CI. The influence of the health care system on the process which socializes people to traditional sex roles.

WST 3360 MEN AND SEXISM (4)
This course deals with the ways in which sex role conditioning affects the lives of men. The factors involved in the development of this conditioning will be studied and alternatives to these sex role models will be discussed as well.

WST 4900 DIRECTED READINGS (1-4)
PR: CI plus upper division standing. To provide advanced students with intensive reading of interdisciplinary nature in areas of specific interest. May be repeated up to eight credit hours.

WST 4910 DIRECTED RESEARCH (1-4)
PR: CI plus upper division standing. To provide advanced students with interdisciplinary research experience in areas of specific interest. May be repeated up to eight credit hours.

WST 4930 SELECTED TOPICS (1-5)
PR: WST 2010 or CI. Study in special areas such as Women and Health, The Aging Woman, and the Professions, Women in the Arts.

WST 4935 SEMINAR IN WOMEN'S STUDIES (4)
PR: WST 2010 or CI. In-depth study of research in one or more areas of topical interest to students and staff. Research involvement by students required.
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Extension Library (SUS) Director .................................. OSBORNE L. GOMEZ

Fort Myers Campus

Director ............................................................ ROY I. MUMME
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All members of the University of South Florida faculty and administrative staff, including teaching, research, administrative and professional personnel are listed below in alphabetical order. The listing includes name, current rank and field, first year of continuous appointment to any position in the institution, degrees, and institution and year of terminal degree, as of December 31, 1978. (A semicolon between degrees indicates different institutions).

ABBOTT, JAMES .................................. Lecturer (Psychology), 1972

ABBOTT, JOHN .................................... Lecturer (Music), 1972

ABBOTT, JOSIAH .................................. Lecturer (Psychology), 1972

ABBOTT, VICTOR .................................. Lecturer (Mathematics), 1972

ABBOTT, WILLIAM ................................ Associate Professor (Marketing), 1972

ABBOTT, WYATT .................................. Lecturer (Accounting), 1972

ABRAM, ELIZABETH .................................... Instructor (Social Work), 1972

ABRAM, IRENE .................................... Instructor (Social Work), 1972

ABRAM, J. ........................................ Instructor (Social Work), 1972

ABRAM, J. D. .................................... Instructor (Social Work), 1972

ABRAM, JACOB ................................... Professor (Medicine), 1972

ABRAM, MARVIN ...................................... Instructor (Social Work), 1972

ABRAM, R. .......................................... Instructor (Social Work), 1972

ABRAM, ROBERT .................................... Instructor (Social Work), 1972

ABRAMS, DAVID ..................................... Instructor (Social Work), 1972

ABRAMS, MARVIN ...................................... Instructor (Social Work), 1972

ABRAMS, R. ......................................... Instructor (Social Work), 1972

ABRAMS, W. ......................................... Instructor (Social Work), 1972

ABRAMS, WALTER .................................... Instructor (Social Work), 1972

ABRAMS, W. ......................................... Instructor (Social Work), 1972

ABRAMS, WALTER .................................... Instructor (Social Work), 1972

ABBA, THOMAS ..................................... Instructor (Social Work), 1972

ABBA, VICTOR ..................................... Instructor (Social Work), 1972

ABBEY, WALTER R ........................................ Lecturer (Engineering), 1966

B.S.M.E., Tri-State College, Indiana, 1938

ABRAM, JACQUES .................................. Professor (Music), 1963

Diploma with Distinction, Juilliard School of Music, 1938

ACKERMAN, DORIS J ...................................... Associate Librarian (Libraries), 1969

B.A.; M.L.S., Rutgers, 1969

ADAIR, W. LEE, JR ................................... Assistant Professor (Biochemistry), 1975

Sc.B.; Ph.D., Georgetown University, 1972

ADAMS, PATRICIA B ........................................ Instructor (Nursing), 1976

B.S.N., M.N., University of Florida, 1974

ADAMS, PATRICIA W .................................... Counselor and Adviser

(University Studies, Student Affairs), 1965


ADDISON, LINDA B ...................................... Visiting Instructor (Exceptional Child Education), 1976

B.S.; M.A., University of South Florida, 1975

AGRESTI, MICHAEL ........................................ Lecturer (Psychology), 1969

A.B.; M.A., University of Florida, 1964

ALBERS, BRADLEY G ..................................... Visiting Assistant Professor

(Music-SYCOM), 1978


ALEXANDER, LUELLA K .................................. Lecturer (Sociology), 1972

B.A.; M.A., Ohio State University, 1966

ALEXANDER, MICHAEL D ................................ Clinical Psychologist (Counseling), 1975 Sarasota Campus

B.S., M.A., Ph.D., Ohio State University, 1972

ALLEN, EDMUND E ...................................... Associate Professor (Interdisciplinary Social Science), 1964

B.S.; M.S.; Ed.D., University of Florida, 1964

ALLEN, HAROLD C .................................. Assistant Professor (Management), 1967

B.A.; M.B.A.; Ph.D., University of Florida, 1969

ALLEN, JAMES L .................................. Professor (Engineering), 1972

B.E.E., M.S.E.E., Ph.D., Georgia Institute of Technology, 1966

ALTMAN, PHILIP ....................................... Assistant Professor (Internal Medicine), 1976

A.B.; M.D., State University of New York, Upstate Medical Center, 1971

ALVAREZ, MARVIN R .................................. Professor (Biology), 1966

B.S., M.S., Ph.D., University of Florida, 1964

ANDERSEN, PHILIP H ................................ Assistant Professor (Surgery), 1974 (Part time)

B.S.; M.D., Marquette University, 1964

ANDERSON, DONALD J ................................ Director (Institutional Research), 1967

B.S.; M.A., University of South Florida, 1971

ANDERSON, E. CHRISTIAN ................................ Professor (Psychological and Social Foundations Education), 1964

B.S., M.A., Ph.D., University of Michigan, 1964

ANDERSON, EVERETT S .................................... Professor (Music), 1963

B.M., M.M., Illinois Wesleyan University, 1937

ANDERSON, JEAN R .................................. Librarian (Libraries), 1975

Fl. Myers Campus

B.A.; M.S.L.S., Columbia University, 1961

ANDERSON, LILLIAN YORKS ..................... Director (Space Utilization and Analysis), 1964

B.A., University of South Florida, 1977

ANDERSON, LOUIS V .................................. Associate Professor (Psychological and Social Foundations Education), 1963

B.A., M.A., Ph.D., George Peabody College, 1966

ANDERSON, MARIA J ................................ University Physician (Student Health Services, Student Affairs), 1978

M.D., University of Havana School of Medicine, 1961

ANDERSON, MELVIN W .................................. Professor-Assistant Chairperson

(SMF-Engineering), 1969

B.S., M.S., Ph.D., Carnegie-Mellon University, 1967, P.E.

ANDERSON, ROBERT L .................................. Associate Professor (Marketing), 1971

B.S., M.S.; Ph.D., North Texas State University, 1971

ANGROSINO, MICHAEL V .................................. Associate Professor (Anthropology), 1972

B.A.; Ph.D., University of North Carolina, 1972

ANKER, JAMES M .................................. Professor-Chairperson (Psychology), 1974

A.B., M.A., Ph.D., Catholic University of America, 1957

ANTON, WILLIAM D .................................. Director (Counseling Center, Student Affairs), 1972

B.A., M.A., Ph.D., University of South Florida, 1975

APPLEGATE, MINERVA I .................................. Assistant Professor (Nursing), 1976

B.S.N.; M.Ed., Columbia University Teachers College, 1974

ARNADE, CHARLES W ................................ Professor (Interdisciplinary Social Science), 1961

A.B., M.A., Ph.D., University of Florida, 1955

ARTHUR, FURMAN C .................................. Director (Public Affairs), Sarasota Campus, 1975

B.A., Bethany College, 1948

ARTHUR, GARY K .................................. Assistant Professor (Psychiatry), 1975, (Part time)

B.S.; M.D., Hahnemann Medical College, 1970

ASH, RONALD A ..................................... Associate in Research

(Human Resources Institute), 1978

B.S., M.A., Ohio State University, 1974

ASHFORD, THEODORE A ................................ Professor (Chemistry) and Dean Emeritus (Natural Science), 1960

B.S., M.S., Ph.D., University of Chicago, 1936

AUBEL, JOSEPH L .................................. Associate Professor (Physics), 1964

B.S., M.D., Michigan State University, 1964

AUCREMMAN, CHARLES E .................................. Associate Professor (Family Medicine), 1975 (Part time)

A.B., M.S., M.D., Emory University School of Medicine, 1943

AUSTIN, MARTHA L .................................. Professor (Reading Education), 1963

B.A.; M.Ed., Ph.D., University of Chicago, 1969

AZAR, HENRY A .................................. Professor (Pathology), 1972 (Part time)

B.A., M.D., American University of Beirut, Lebanon, 1952

BABBE, GARETH R .................................. Associate Professor (Biology), 1972

B.A., M.S.; Ph.D., University of Texas, 1970

BAILEY, OSCAR W .................................. Professor (Visual Arts), 1969

B.A., M.F.A., Ohio University, 1958

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BRYANT, ALMA G. ....... Assistant Professor-Program Director (English), 1972
B.S., M.A., Ed.D., University of Florida, 1976

BRYANT, FRED D. ....... Director (Health Sciences Library), 1971
A.B., M.S.L.S., Emory University, 1947

BRYANT, HAYDEN C., JR. ....... Associate Professor (Art & Music Education), 1967
B.A., M.A., George Peabody College, 1957

BRYKZYNSKI, KAREN A. ....... Instructor (Nursing), 1976
B.S.N., M.S.N., Adelphi University, 1976

BUENO, EDGAR E. ....... Assistant Professor (Psychiatry), 1973
M.D., University of San Marcos, Lima, Peru, 1965

BUKANTZ, SAMUEL C. ....... Professor (Internal Medicine), 1972
B.S.; M.D., New York University College of Medicine, 1934

BURLOCK, GRACE L. ....... Visiting Instructor (Reading Education), 1977
A.B., M.A., University of South Florida, 1970

BURLOCK, JOHN T. ....... Associate Professor (Science and Health Education), 1966

BURDICK, GLENN A. ....... Professor (Electrical Engineering), 1965
B.S., M.S., Ph.D., Massachusetts Institute of Technology, 1961

BURLINGTON, ROBERT ....... Professor (Psychological and Social Foundations Education), 1966
B.A., M.A., Ph.D., University of North Carolina, 1970

BURNS, CANDACE M. ....... Associate Professor-Assistant Dean (Nursing), 1977
B.S.N.; M.S., University of Michigan, 1972

BURNS, THOMAS J. ....... Assistant Professor (Religious Studies), 1969

BURR, RUSSELL K. ....... Associate Director (Veterans Affairs, Branch Campuses Student Affairs), 1973
B.A., M.A., University of South Florida, 1976

BURTON, ROBERT H. ....... Associate Professor (Economics), 1963
B.B.A., M.B.A., Ph.D., Louisiana State University, 1967

BUSOT, J. CARLOS ....... Professor-Assistant Chairperson (Chemical Engineering), 1970
B.S., M.S., Ph.D., University of Florida, 1970

BUSWELL, JOSEPH F., JR. ....... Acting Vice President (University Relations), 1971
B.S.; M.S.; Ph.D., University of Florida, 1978

BURTON, ROBERT H. ....... Director (Physical Plant), 1965
B.A., Lincoln Memorial University, 1942

BYRNEL, LUIS O. ....... Assistant Professor (Psychiatry), 1975
M.D., San Marcos University, Lima, Peru, 1964

BYRNEL, ROBERT H., JR. ....... Associate in Research (Marine Science), 1977

CAFLISCH, JACOB C., III ....... Associate Professor (Communication), 1970
A.B., A.M., Ph.D., Indiana University, 1974

CALANDRA, DENNIS ....... Associate Professor (Theatre), 1978
B.A., M.A., Ph.D., University of Nebraska, 1970

Caldwell, Edward ....... Director (Testing and Evaluation) Associate Professor (Measurement and Research Education), 1965
B.S., M.S., Ed.D., Florida State University, 1958

CAMERON, WM. BRUCE ....... Professor (Sociology), 1964
B.A., M.A., Ph.D., University of Wisconsin, 1952

CAMP, JOHN B. ....... Associate Professor (Communication), Program Director (Liberal Studies), 1964
B.M., M.M., Ph.D., Florida State University, 1964

CAMP, PAUL E., JR. ....... Associate Librarian (Libraries), 1972
B.A.; M.S.L.S., Florida State University, 1972

CANO, CARLOS J. ....... Associate Professor (Foreign Languages), 1970
B.A.; M.A., Ph.D., Indiana University, 1973

CAPAS, CLEON W. ....... Professor (Foreign Languages), 1970
B.A.; M.A., Ph.D., University of New Mexico, 1964

CARRAWAY, JAMES S. ....... Assistant Professor (Radiology), 1977 (Part time)
B.A.; M.D., University of Tennessee, 1969

CARMEN, FRIEDA W. ....... Professor (Nursing), 1973

CARD, GEORGE R. ....... Academic Administrator (Engineering), 1970
B.S.; M.A., University of South Florida, 1971

CAHILL, KENDALL L. ....... Associate Professor (Marine Science), 1969—St. Petersburg Campus
B.S., M.S., Ph.D., Oregon State University, 1970

CARGILL, CAROL C. ....... Assistant Professor (Communication), 1977
B.S.C.E., Ph.D., North Carolina State University, 1966

CARR, DAVID R. ....... Assistant Professor (History), 1971—St. Petersburg Campus
B.A.; M.A., Ph.D., University of Nebraska, 1971

CARR, JOSEPH A. ....... Director (Planetarium), 1960
CARRASCO, MAGDALENA E. ....... Instructor (Humanities), New College of USF, 1975—Sarasota Campus

CARR, JAMES ....... Associate Professor (Modern Languages), 1970
B.A., M.A., M.Phil., Yale University, 1975

CARRILL, DELOS L., JR. ....... Associate Professor (Psychological and Social Foundations Education), 1969

CARTER, DAVID A. ....... Assistant Professor (Communication), 1973
B.A., M.A.; Ph.D., University of Iowa, 1976

CARTER, WALTER S. ....... Assistant Professor (Political Science), 1977
B.S.; M.S.; Ph.D., Claremont Graduate School, 1976

CAVANAUGH, DENIS ....... Professor (Obstetrics and Gynecology), 1977
M.B., Ch.B., University of Glasgow, 1952

CAYNE, ROBERT M., JR. ....... Assistant Professor (Peditrics), 1976
B.A.; M.D., University of Cincinnati College of Medicine, 1970

CECONE, ISABELLE F. ....... Lecturer (English), 1960
B.A., Wells College, 1940

CHEE, SOO BONG ....... Professor (Natural Sciences), New College of USF, 1975—Sarasota Campus
B.S.; M.A.; Ph.D., University of Rochester, 1970

CHAMBERS, ERVE J. ....... Assistant Professor (Anthropology), 1977
B.A.; M.A., Ph.D., University of Oregon, Eugene, 1973

CHAMBERS, JAMES A. ....... Professor-Coordinator (Childhood and Language Arts Education), 1964
A.B.; M.A.; Ed.D., University of Tennessee, 1963

CHEN, TSONG-MING ....... Professor (Electrical Engineering), 1972
B.S.; Ph.D., University of Minnesota, 1964

CHERRY, R. ADRIAN ....... Associate Professor (Foreign Languages), 1961
B.A., M.A., Ph.D., University of Kentucky, 1960
CHINNELL, ROBERT E. Associate Professor (English), 1967
B.A., M.A.; Ph.D., Auburn University, 1971

CHRISMAN, LARRY G. Assistant Professor (Library, Media and Information Studies Education), 1978
B.A.; M.S.L.S.; Ph.D., Indiana University, 1975

CHRISTENSEN, JAMES A. Assistant Professor (Surgery), 1973 (Part time)
A.B.; M.D., Indiana University, 1968

CHRISTIE, RICK D. Athletic Coach (Intercollegiate Athletics, Student Affairs), 1970 (Part time)
B.A., University of South Florida, 1970

CHUNG, HANSON Y. Assistant Professor (Pathology), 1977
B.S.; Ph.D., University of North Carolina, 1968

CIMINO, LOUIS E. Associate Professor (Pediatrics), 1974 (Part time)
B.S.; M.D., St. Louis University, 1950

CLAPP, ROGER W., JR. Associate Professor (Physics), 1963
B.S.; M.S., Ph.D., University of Virginia, 1954

CLARK, JOHN R. Professor (English), 1973
B.A.; M.A.; Ph.D., University of Michigan, 1965

CLARK, WILLIAM E. Professor (Mathematics), 1970
B.A.; Ph.D., Tulane University, 1964

CLARKE, BARBARA K. Visiting Assistant Professor (Reading Education), 1977—Sarasota Campus
B.A.; M.A.; Ph.D., Florida State University, 1977

CLAYBACK, JEAN B. Assistant Professor (Childhood Education), 1977—Sarasota Campus
B.S.; Ed.M., Ed.D., State University of New York, Buffalo, 1977

CLAYTON, GLENNON S. Assistant Vice President (Finance and Planning), 1966
B.S.; M.A., University of South Florida, 1973

CLEARY, LYNN F. Associate Professor-Acting Chairperson (Educational Leadership Education), 1970
B.A., M.S., Ph.D., Florida State University, 1970

CLEAVER, FRANK L. Professor (Mathematics), 1960
B.S.; M.S.; Ph.D., Tulane University, 1960

CLINE, RALPH Assistant Professor (Exceptional Child Education), 1971—St. Petersburg Campus

CLINGMAN, JOY M. Associate Professor (Psychology), 1970—St. Petersburg Campus
B.A., M.S., Ph.D., Florida State University, 1971

CLOUGH, W. LYNN Associate Professor (Humanities), New College of USF, 1975—Sarasota Campus
B.A., M.A., Queen's College, Cambridge, 1938

COKER, JOHN W. Director (Fine Arts Events), 1969
B.S.; M.M., College-Conservatory of Music, Cincinnati, 1956

COLE, NANCY B. Associate Professor and Chairperson (Theatre), 1976
A.B.; M.F.A. in Acting, University of Iowa, 1964

COLE, ROGER W. Professor (Communication), 1969
B.A., M.A.; Ph.D., Auburn University, 1968

COLLIER, CLARENCE H. Associate Professor (Adult and Vocational Education), 1968
B.S., M.E., University of Georgia, 1965

COLLIER, TROY L. Assistant to Vice President (Student Affairs), 1971
B.S.; M.L.A., Southern Methodist University, 1971

COLLINS, PASchal J. Assistant Professor (English), 1969
B.A.; M.A.; Ph.D., University of Florida, 1978

COLOMBO, JORGE A. Associate Professor (Anatomy), 1977
B.S.; M.D., Medical School of the University of Buenos Aires, 1964

CONWAY, CHARLES E. Visiting Lecturer (American Studies), 1970
B.S., Temple University, 1961

COOK, DORIS C. Librarian (Libraries), 1968—St. Petersburg Campus
B.A.; M.S.L.S., Florida State University, 1966

COOK, JOHN M. Assistant Professor (Music), 1974

COOKE, JOHN P. Associate Professor (Economics), 1968
B.S.; M.B.A.; Ph.D., University of Colorado, 1967

COOKE, NANCY S. Counselor/Adviser (Student Personnel Office, Education), 1974 (Part time)
B.S.; M.A., University of Denver, 1960

COOPER, CLARK B. Associate Professor (Humanities), 1969
B.A., M.A., Ph.D., Florida State University, 1969

CORRETTA, BRIAN J. Visiting Assistant Professor (Biology), 1978
B.A.; Ph.D., University of Oregon, 1978

CORY, JOSEPH G. Professor-Chairperson (Biochemistry), 1966
B.S.; Ph.D., Florida State University, 1963

COWINGTON, HARRISON W. Dean-Professor (Fine Arts), 1961

COWELL, BRUCE C. Associate Professor (Biology), 1967
B.A., M.A., Ph.D., Cornell University, 1963

COX, BARBARA C. Assistant to Dean (Arts and Letters), 1974
B.A., William and Mary, 1938

COX, ERNEST L., III Professor (Visual Arts), 1962
B.A.; M.F.A., Cranbrook Academy of Art, 1961

COX, ROBERT G. Dean-Professor (Business Administration), 1975
B.S.; M.B.A.; Ph.D., University of Pennsylvania, 1956, C.P.A.

CRAIG, CALVERT J. Associate Professor (Educational Leadership Education), 1967
B.S., M.S., University of Illinois, 1951

CRAIG, CHARLES P. Professor (Internal Medicine), 1972 (Part time)
B.A.; M.D., University of Pittsburgh School of Medicine, 1961

CRANE, ROGER A. Associate Professor (Engineering), 1974
B.S.; M.S.; Ph.D., Auburn University, 1973

CROCKETT, MARGARET E. Professor (Physical Education, Education), 1961
B.S.; M.S.; Ed.D., University of Florida, 1970

Crittenden, Jerry Associates Professor (Communicology), 1971
B.S.; M.A., Ph.D., Michigan State University, 1969

CROFT, JAMES E. Associate Professor (Art and Music Education), 1972
B.M.E.; M.A.; M.D.E., University of Oklahoma, 1970

CROSEY, JOHN O. University Physical Planning Consultant (Facilities Planning), 1977
B.Arch., University of Florida, 1969

CROUCH, JAMES W. Student Affairs Coordinator (Student Organizations, Student Affairs), 1973
B.A.; M.A., Indiana University, 1971

CROWTHER, PHILIP E. Assistant in Research (Pathology), 1977
B.S.; M.S., University of Connecticut, 1975

CUMMINGS, YVONNE E. Assistant Professor (Internal Medicine), 1978
B.S.; M.D., Howard University College of Medicine, 1973

CUMMINGS, VIRGINIA P. Assistant Librarian (Libraries), 1976
B.A.; M.A., University of South Florida, 1976

CUPOLI, J. MICHAEL Assistant Professor (Pediatrics), 1977
B.S.; M.D., Georgetown Medical School, 1971

CURRAN, JOHN S. Associate Professor (Pediatrics), Director (Neonatal Service), 1972
A.B.; M.D., University of Pennsylvania, 1966

CURRY, CECIL B. Professor (History), 1967
A.B., M.S., Ph.D., University of Kansas, 1964

CURTIS, THOMAS D. Associate Professor (Economics), 1974
B.S., M.A.; Ph.D., Indiana University, 1965

CZYZEWSKI, PAUL V. Assistant Professor-Acting Chairperson (Art & Music Education), 1974
B.S., M.S., University of Tennessee, 1970
DANIELS, HARRY P. ... Student Affairs Coordinator (Student Publications, Student Affairs), 1974
DADUK, AHMAD A. ... Associate Professor (Surgery), 1975 (Part time)
B.S., M.D., American University of Beirut, 1965
DAUGHERTY, GEORGE G. ... Lecturer (Mass Communications), 1972
B.S.; M.L.S., University of South Florida, 1978
DAVEN, KENNETH W. ... Assistant Professor (Economics), Coordinator of Advising, Undergraduate (Business Administration), 1966
B.A.; M.A., St. Mary's University, 1965
DAVIS, DARRELL L. ... Professor (Physiology), 1971
B.S.; M.A.; Ph.D., St. Louis University, 1956
DAVIS, JEFFERSON C., JR. ... Professor-Chairperson (Chemistry), 1965
B.S.; M.S.; Ph.D., University of California, Berkeley, 1959
DAVIS, LARRY R. ... Systems Coordinator (Computer Research Center), 1978
B.S.E.E., University of Florida, 1967
DAVIS, MACK, III ... Coordinator (Project Thrust), 1977
B.A., University of South Florida, 1972
DAVIS, RICHARD A., JR. ... Professor-Chairperson (Geology), 1973
B.S.; M.A.; Ph.D., University of Illinois, 1964
DAVIS, WESLEY F. ... Professor (English), 1960
A.B.; M.A.; Ph.D., Stanford University, 1970
DAWES, CLINTON J. ... Professor (Biology), 1964
B.S., M.A., Ph.D., University of California, Los Angeles, 1961
DEANS, STANLEY R. ... Professor (Physics), 1967
B.S.; M.S.; Ph.D., Vanderbilt University, 1967
DEATS, SARAH M. ... Associate Professor (English), 1970
B.A., M.A., Ph.D., University of California, Los Angeles, 1970
DEBORD, WARREN A. ... Associate Professor (Marketing), 1969
B.S., M.B.A., Ph.D., University of Illinois, 1969
DEER, HARRIET H. ... Associate Professor (English), 1966—St. Petersburg Campus
M.A., University of Minnesota, 1964
DEER, IRVING ... Professor (English), 1966
B.S.; M.A., Ph.D., University of Minnesota, 1956
DEITZ, JOHN C. ... Associate Professor (Finance), 1965
B.S., M.B.A., Ph.D., Western Reserve University, 1965
DEL MASTRO, PATRICK R. ... Assistant Professor (Internal Medicine), 1978
B.S.; M.D., University of Bologna, Italy, 1972
DEME, LASZLO ... Professor (History), Chairperson (Social Sciences), New College of USF, 1975—Sarasota Campus
M.A., Ph.D., Columbia University, 1969
DENKER, MARTIN W. ... Associate Professor (Psychiatry), 1972
B.A., M.D., Johns Hopkins University, 1968
DENNIS, DAVID M. ... Associate Professor (Accounting), 1972
A.B.; M.B.A.; Ph.D., University of Missouri, 1972, C.P.A.
DE QUESADA, ALBANDRO M. ... Associate Professor (Internal Medicine), 1973 (Part time)
B.S.; M.D., University of Havana School of Medicine, 1960
DERTKE, MAX C. ... Associate Professor (Criminal Justice), Director (University Studies, Student Affairs), 1967
B.A., Ph.D., University of Miami, Florida, 1968
DEVINE, JAMES F. ... Assistant Professor (SMF-Engineering), 1965
B.S., M.S., University of Illinois, 1960
DEVORE, PHILLIP W. ... Assistant Professor (Pediatrics), 1977
B.S.; M.D., Indiana University School of Medicine, 1972
DI CARLO, VINCENZO ... Professor (Internal Medicine), 1978
B.A.; M.D., University of Naples School of Medicine, Italy, 1952
DICKERSON, DONNA L. ... Assistant Professor (Mass Communications), 1977
B.J., M.A.; Ph.D., Southern Illinois University, 1977
DICKIN, ANNAMARY L. ... Associate Professor (Music Arts), 1969
B.S.; M.Ed., Columbia University, 1963, Artist Diploma
DICKINSON, JAMES C. ... Professor (Psychological and Social Foundations Education), 1969
A.B., A.M., Ph.D., University of Minnesota, 1964
DICKMAN, J. FRED ... Associate Professor (Rehabilitation Studies Program), 1970
DIECKM, LINNEA S. ... Associate Professor (Visual Arts), 1968
B.A.; M.A., Ph.D., University of Delaware, 1972
DIECKM, RICHARD F. ... Professor (English), 1968
A.B.; M.A.; Ph.D., Florida State University, 1965
DREWZ, JOHN J. ... Instructor (English), 1971
A.B.; M.A., Temple University, 1965
DIXON, THOMAS P. ... Associate Professor (History), 1969
B.A.; M.A., Ph.D., University of Iowa, 1964
DINWOODIE, WILLIAM R. ... Assistant Professor (Internal Medicine), 1978
A.B., M.D., Indiana University School of Medicine, 1972
DORKIN, JOSEPH B. ... Librarian (Libraries), 1974
B.A., B.A.; M.L.S., Rutgers University, 1966
DODD, RICHARD W. ... Assistant Professor-Program Director (Family Medicine), 1977 (Part time)
M.D., State University of New York, Upstate Medical Center, 1960
DOLNICEK, JUSTUS ... Professor (Social Sciences), New College of USF, 1975—Sarasota Campus
A.B.; M.A., Ph.D., Princeton University, 1966
DONALDSON, MERLE R. ... Professor-Chairperson (Electrical and Electronic Systems), 1964
B.B.E.E., M.S.E., Ph.D., Georgia Institute of Technology, 1959
DOTY, LOUIS F. ... Professor (Industrial Systems Engineering), 1970
M.D., Ph.D., University of Cincinnati, 1951
 DOUD, CAROLYN E. ... Instructor (Theatre), 1978
B.S.; M.F.A., Illinois State University, 1978
DOWD, A. GERALDINE ... Professor (Nursing), 1978
B.S.S., M.S., Ed.D., Boston University, 1971
DOWNS, BERNARD F. ... Assistant Professor (Communication), 1970
DOYLE, LARRY J. ... Associate Professor (Marine Science), 1972—St. Petersburg Campus
B.A., M.A.; Ph.D., University of Southern California, 1973
DRAPELA, VICTOR J. ... Professor (Guidance Education), 1968
Ph.L.; M.A., Ph.D., University of North Dakota, 1968
DRAPEL, BRUCE ... Assistant Professor (Psychiatry), 1977
B.S., M.D., Yale University School of Medicine, 1954
DRIKELL, MELVINE M. ... University Physician (Student Health Service, Student Affairs), 1978
B.S., M.D., Emory University School of Medicine, 1935
DUBOIS, LEADORE D. ... Associate Professor (Childhood and Language Arts Education), 1964
B.S., M.A., M.S., Northwestern University, 1949
DUDLEY, FRANK M. ... Associate Professor (Chemistry), 1960
A.B.; B.S.; M.A., Ph.D., Ohio State University, 1962
DUDLEY, JULIUS W. ... Assistant Professor-(Afro-American Studies), 1970
B.A., M.A., Atlanta University, 1969
DUNN, EDGAR H. ... Lecturer (Accounting), 1970—St. Petersburg Campus
J.D., University of Florida, 1947.
DURKO, MARY W. ... Associate Professor (Adult and Vocational Education), 1969
B.A., M.A.; Ph.D., Georgia State University, 1973
DUTTON, RICHARD E. ... Professor (Management), 1963
A.B.; M.B.A.; Ph.D., Louisiana State University, 1963
DZWERNIK, JULIAN J. ... Associate Dean (College of Medicine-Admissions), Associate Professor (Anatomy), 1970
B.A.; M.S.C., Ph.Ib., University of Manitoba, Canada, 1969
Dwyer, Robert C. ... Professor (Exceptional Child Education), 1964
B.A.; M.A., Ed.D., George Peabody College, 1966
Dye, Howard S. Professor (Business Administration), 1973
A.B., M.A., Ph.D., Cornell University, 1949

Dykstra, David E. Professor (Literature), Chairperson (Humanities), New College of USF, 1975—Sarasota Campus
B.A.; M.A., Ph.D., University of Iowa, 1957

Eaker, Alan B., Jr. Associate Professor (Visual Arts), 1969
B.A., M.A., University of California, Berkeley, 1969

Ebel, Theron A. Assistant Professor (Internal Medicine), 1972
B.S., M.S., M.D., Indiana University, 1970

Edwards, William C. Professor-Chairperson (Ophthalmology), 1972
A.B.; M.D., Yale Medical School, 1959

Eggis, Frederick B. Assistant Professor (Biology), 1971
M.D., San Marcos University, Lima, Peru, 1969

Elder, Wayne T. Instructor (Accounting), 1978
B.A.; M.A., M.C., University of South Florida, 1978

El-Youssef, M. Khaleed. Associate Professor (Psychiatry), 1975
B.S., M.D., American University of Beirut, 1968

Endicott, James N. Associate Professor (Surgery), 1975 (Part time)
A.B.; M.D., Indiana University School of Medicine, 1967

Engel, Charles W. Professor (Math Education), 1966
B.S., M.S.; Ed.D., Wayne State University, 1966

Entrekkin, Nina M. Associate Professor (Nursing), 1973
B.S.N., M.N., Emory University School of Nursing, 1969

Erickson, Linda E. Academic Administrator (University Studies, Student Affairs), 1964
B.A., M.A., M.M., University of South Florida, 1970

Ervin, Donald W. Instructor-Assistant Director (Sponsored Research), 1973
B.S., Athens College, 1964

Espinoza, Carmen G. Assistant Professor (Pathology), 1978
M.D., San Marcos University, Lima, Peru, 1969

Espinoza, Luis R. Associate Professor (Internal Medicine), 1978
M.D., Peru University of Medical and Biological Sciences, Lima, Peru, 1969

Essig, Frederick B. Assistant Professor (Biology), 1975
Director (Botanical Gardens), 1975
A.B.; Ph.D., Cornell University, 1975

Estler, William T. Associate Professor (Natural Sciences), New College of USF, 1975—Sarasota Campus
B.S.; M.A., Ph.D., State University of New York, Stonybrook, 1972

Fabry, Donna P. Continuing Education Coordinator (Continuing Education), 1977
B.S., University of Miami, Florida, 1959

Fabry, Frances J. Professor (English), 1964
A.B., M.A., Ph.D., University of Texas, 1964

Factor, Regis A. Assistant Professor (Political Science), 1971—St. Petersburg Campus
B.A.; M.A.; Ph.D., University of Notre Dame, 1974

Fager, Charles J. Professor (Visual Arts), 1963
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Hoffman, Theodore B. . . . . . . Professor (Humanities), 1962
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Holley, John W. . . . . . . Associate Professor (Sociology), 1971
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B.A., M.A., Ph.D., Florida State University, 1964

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Horacek, Margaret B. . . . . . . Associate Librarian (Medical Library), 1974
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Horrigan, Frederick J. . . . . . . Associate Professor (Political Science), 1968
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KUSHNER, GILBERT ... Professor (Psychology), 1966
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LAVEL, JAME S L. ... Professor (Exceptional Child Education), 1970
LAW, A. A. M. ... Professor (Mathematics), 1965
LAWSON, STEVEN F. ... Associate Professor (History), 1972—St. Petersburg Campus
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LEVY, ARTHUR B. ... Associate Professor (Political Science), 1970
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ROSEL, NATALIE E. ............. Assistant Professor (Social Sciences), Coordinator (Off-Campus Study Program), New College of USF, 1975--Sarasota Campus
B.A.; M.A., Ph.D., Indiana University, 1971

ROSENTHAL, NORMAN S. ....... Assistant Professor (Radiology), 1975
B.A.; M.D., New York Medical College, 1967

ROSENZWEIG, ROSS .................. Visiting Professor (Geology), 1977

ROSS, BERNARD E. .................. Professor (SMF-Engineering), 1965
B.S.M.E., M.S.A.E.; M.S.E.M., Ph.D., University of Florida, 1964, P.E.

ROSS, VIVIAN M. ..................... Associate Professor (Nursing), 1977
B.S.N., M.S.N.; Ed.D., Nova University, 1975

ROSS, WILLIAM T. ................. Associate Professor (English), 1970

ROSSIN, STUART ................. Professor (Geography), 1965
B.A., M.A., Syracuse University, 1964

ROUSE, MARYANNE M. ......... Assistant Professor (Business Administration), 1971—St. Petersburg Campus
B.A.; M.B.A., University of South Florida, 1974

ROUSH, S. LARRY .................... Visiting Associate Professor (Management), 1978--Sarasota Campus

RUBIN, STEVEN J. ................. Associate Professor (English), 1969
B.A.; M.A., Ph.D., University of Michigan, 1969

RUIZ, CESAR L. .................. Assistant Professor (Psychiatry), 1978
M.D., Manila Central University, Philippines, 1965

RUNDUS, DEWEY J. .............. Associate Professor (Psychology), 1972
B.S.; Ph.D., Stanford University, 1970

RUTENBERG, DANIEL .................. Professor-Chairperson (Humanities), 1966
A.B.; M.A., Ph.D., University of Florida, 1967

RYON, JAMES M. .................. Assistant Professor (Music Arts), 1973
B.M.; M.M., The Juilliard School of Music, 1978

SABA, HUSSEIN I. ............ Associate Professor (Internal Medicine), 1975
M.D.; Ph.D., University of North Carolina School of Medicine, 1970

SADLICKI, RONALD W. .......... Assistant Professor (Surgery), 1976
B.S.; M.D., Indiana University School of Medicine, 1968

SAENZ, ARMANDO .................. Associate Professor (Psychiatry), 1975
B.A.; M.D., University of Texas, Southwestern Medical School, 1963

SAFF, DONALD J. ................. Professor (Fine Arts), 1965
B.A.; M.A.; M.F.A.; Ed.D., Columbia University, 1964

SAFF, EDWARD B. .................. Professor (Mathematics), 1969
B.S.; Ph.D., University of Maryland, 1968

SANDERS, THOMAS E. ............. Associate Professor (English), 1968
B.A., M.A., University of Denver, 1951

SANDERSON, ARTHUR M. ....... Professor (Mass Communications), 1965
B.A.; M.A.; Ph.D., University of Iowa, 1963

SANDLER, JACK .................. Professor (Psychology), 1969
B.A.; M.S.; Ph.D., Florida State University, 1969

SANTOS, STUART L. ............... Assistant in Research (Biology), 1973

A.B.; M.A., University of South Florida, 1972

SAPOSA, SAMUEL .............. Assistant Professor (Anatomy), 1977
B.A.; Ph.D., University of Southern California, 1973

SARACINO, CARMELO A. .......... Assistant Professor (Surgery), 1978
B.S., M.A., University of Maryland, 1973

SASSER, EMERY L. .............. Professor-Chairperson (Mass Communications), 1973
A.B., M.A.; Ph.D., University of Illinois, 1967

SCHRADER, ALAN L. .............. Assistant Professor (Psychiatry), 1974
B.A.; M.A., Ph.D., University of Portland, 1972

SAXON, SUE V. ................. Professor (Aging Studies Program), 1963
B.S., M.S., Ph.D., Florida State University, 1963

SCHALEMAN, HARRY J., JR. .... Associate Professor (Geography), 1969—St. Petersburg Campus
B.S.; M.A., University of Cincinnati, 1963

SCHATZ, DAVID R. ............... Assistant Professor (Humanities), New College of USF, 1975--Sarasota Campus
B.A.; M.A., Harvard University, 1969

SCHENCK, DAVID P. ............ Associate Professor (Foreign Languages), 1974
B.A.; M.A., Pennsylvania State University, 1971

SCHERER, JANE W. ............. Assistant Professor (Communication), 1971
B.S.; B.A.; M.S.; M.A.; Ed.D., Nova University, 1975

SCHERER, WILLIAM H. ....... Associate Vice President (Academic Affairs), Professor (English), 1964
B.A.; M.A.; Ph.D., Syracuse University, 1964

SCHMIDT, STEVEN D. ......... Assistant Professor (Biochemistry), 1974
B.A.; Ph.D., Albert Einstein College of Medicine, 1969

SCHMITT, CHARLES J. .......... Coordinator (Fine Arts Events), 1976
B.A.; M.A., University of Wisconsin, 1956

SCHNEIDER, RAYMOND J. .......... Professor (Communication), 1968
A.B.; Ph.L.; M.A.; S.T.L.; Ph.D., University of Michigan, 1965

SCHNEIDER, STEWART W. ........ Professor (Chemistry), 1971
B.S.; M.S.; Ph.D., Indiana University, 1968

SCHNITZELLE, HAROLD N. ........ Professor (Anatomy), 1973
A.B.; M.S.; Ph.D., St. Louis University, 1954

SCHREINER, GREGORY L. ....... Lecturer (Dance), 1976 (Part time)
B.M.; M.A., Western Illinois University, 1973

SCHROER, HAROLD M. ......... Professor-Chairperson (Management), 1973
B.A.; M.A., Ph.D., Ohio State University, 1954

SCHWARTZ, CAROLE J. ........... Instructor (Childhood and Language Arts Education), 1970
B.A.; M.S., University of Wisconsin, 1959

SCHWARTZ, DANIEL J. .......... Assistant Professor (Internal Medicine), 1978
B.A.; M.D., Jefferson Medical College, 1973

SCHWARTZ, JULIA L. ............ Librarian (Libraries), 1962
B.S.; M.S.L.S., Case Western Reserve University, 1955

SCOTT, JOHN O. ............... Budget Analyst (Academic Affairs), 1974
B.A., University of South Florida, 1974

SCOTT, KEITH L. ............... Vice President (Administrative Affairs), 1977
A.B.; M.S.; Ed.D., University of Colorado, 1964

SCOTT, LAWRENCE E. ............ Assistant to Vice President (Student Affairs), 1976
B.S.; M.A., Ed.D., Western Michigan University, 1976

SCOTT, LINUS A. ....... Professor-Chairperson (Energy Conversion and Mechanical Design), 1964
B.S.M.E., M.S.E.; Ph.D., Case Institute of Technology, 1960, P.E.

SCOTT, RICHARD A. .......... Assistant Professor (Adult and Vocational Education), 1972
B.S., M.Ed., Ed.D., Auburn University, 1976

SCHUCOS, CHARLES E. ........... Associate Professor (Foreign Languages), 1972
B.A.; M.A., Ph.D., University of Kentucky, 1968

SCUDER, PAUL H. ............... Assistant Professor (Natural Sciences), New College of USF, 1975—Sarasota Campus
B.S.; Ph.D., University of Wisconsin, 1977

SCHRADER, EDMUND ........ Assistant Professor (Reading Education), 1974

SCHUMANN, TIM F. ........ Assistant Professor (Family Medicine), 1978
A.B.; M.D., Indiana University School of Medicine, 1973

SEGRETTO, PETER S. ........ Assistant Professor (Geography), 1975
B.A.; M.A.; Ph.D., University of Florida, 1975
SMITH, ELTON E.  Professor (English), 1961
B.S.; M.A.; Ph.D., Syracuse University, 1961, D.D. (Hon.)

SMITH, HAYWOOD C., JR.  Assistant Professor (Astronomy), 1972
A.B.; M.A., Ph.D., University of Virginia, 1972

SMITH, J.  Professor (Accounting), 1969
B.B.A.; M.S., Ph.D., University of Mississippi, 1969, C.P.A.

SMITH, J. J.OMER  Associate Professor (Anthropology), 1972
B.A.; M.A., Ph.D., University of Arizona, 1972

SMITH, JEFFREY B.  Counselor/Adviser (Nursing), 1978
B.A., M.A., University of South Florida, 1974

SMITH, JOHN L., JR.  Assistant Professor-Coordinator (Music), 1972
B.M.E.; M.M.E., Indiana University, 1961

SMITH, JUEL H.  University Counseling Psychologist (Counseling Center, Student Affairs), 1974
B.S.; M.A., University of South Florida, 1973

SMITH, PHILIP L.  Associate Professor-Program Director (Social Work Program), 1975
B.S.; M.S.W., University of Georgia, 1968

SMITH, WILLIAM A.  Professor (Energy Conversion Engineering), 1966
B.S.M.E.; M.S., Ph.D., University of Florida, 1966

SMITH, WILMA A.  Lecturer (Industrial Systems Engineering), 1966
B.I.E.; M.E., University of South Florida, 1977

SMITZES, MELPOMENE S.  Associate Professor (Exceptional Child Education), 1965
B.A.; M.A., University of Florida, 1957

SNAYL, NANCY L.  Instructor (Accounting), 1978
B.A., M.A., University of South Florida, 1978

SNIIDER, ARTHUR D.  Associate Professor (Mathematics), 1970
B.S.; M.A.; Ph.D., New York University, 1971

SNOOK, JANICE B.  Associate Professor (Political Science), 1968
A.B.; M.S.; Ph.D., University of Maryland, 1969

SNYDER, LEE D.  Associate Professor (Social Science, New College of USF, 1975—Sarasota Campus
B.A.; M.A.; M.Div.; Ph.D., Harvard University, 1966

SOBOFF, STEPHEN H.  Assistant Professor (Internal Medicine), 1974
B.S.; M.D., University of Illinois, 1969

SOLON, DAVID A.  Assistant Professor (Medicine), 1976
B.S., M.D., University of Maryland School of Medicine, 1969

SOLONOBS, T. W. GRAHAM  Professor (Chemistry), 1960
B.S.; Ph.D., Duke University, 1959

SOLONSON, LARRY P.  Assistant Professor (Biochemistry), 1976
B.A.; Ph.D., University of Chicago, 1969

SOMMERS, ADA M.  Instructor (Psychiatry), 1976 (Part time)
B.S.; M.A., University of Chicago, 1935

SPAIN, FRANK H.  Director (Community College Relations), 1959
B.S.; M.S.; Ed.D., University of Florida, 1954

SPARKS, AMY J.  Associate Professor (Humanities), 1968.
B.A.; M.A.; Ph.D., Louisiana State University, 1964

SPEAR, FRANK E.  Director, Publications (University Relations), 1969
B.A.; M.A., University of Iowa, 1960

SPENCE, JAMES G.  Instructor (Economics), 1975
B.S., M.A., University of Oklahoma, 1970

SPIEGEL, PHILLIP G.  Professor (Surgery), 1978
B.A.; M.D., Northwestern University, 1960

SPIELBERGER, CHARLES D.  Professor (Psychology), 1972
B.S.; B.A., M.A., Ph.D., University of Iowa, 1954

SPIELMAN, JAMES R.  Assistant Professor (Humanities), 1966
B.S.; M.S., University of Iowa, 1964

SPITZ, CAROLYN V.  Visiting Assistant Professor (Childhood and Language Arts Education), 1977—Fort Myers Campus
A.B.; M.Ed., Ph.D., University of North Carolina, 1972

SPROLES, H. ALLAN  Associate Professor-Acting Chairperson (Exceptional Child Education), 1971
B.S.; M.Ed., Ed.D., University of Georgia, 1973

STAFFORD, JOHN W.  Associate Professor (Geography), 1969
B.S., M.S.; M.A.; Ph.D., Michigan State University, 1971

STALNAKER, LEO, JR.  Associate Professor-Director (Student Publication, Student Affairs), 1969
B.A., M.A., University of South Florida, 1973

STANKO, JOSEPH A.  Associate Professor (Chemistry), 1973
B.S.; Ph.D., University of Illinois, 1966

STANTON, KENNETH D.  Director (Instructional Media, Educational Resources), 1965
B.Des.; M.A., University of South Florida, 1968

STARRUCK, MICHELE  Assistant Professor (Dance), 1975
B.A., M.A., University of South Florida, 1973

STEAK, WILLIAM R.  Visiting Assistant Professor (Mathematics), 1978
B.S.; Ph.D., University of Wisconsin, 1975

STEEL, HOWARD R.  Director (Regional Data Center), 1972
B.S.M.E.; M.B.A., University of Miami, Florida, 1960

STEIN, LESLIE R.  Associate University Attorney (General Counsel), 1976
A.B.; M.A.; J.D., Stetson University College of Law, 1976

STEINER, H. EDWIN, JR.  Associate Professor-Chairperson (Science and Health Education), 1969
B.S., M.A.; Ph.D., University of Texas, 1970

STEINKE, GEORGE C.  Associate Professor (Economics), 1970
B.S.; Ph.D., University of California, Berkeley, 1963

STEINMETZ, JOHN C.  Assistant Professor (Marine Science), 1977—St. Petersburg Campus
B.S., M.S.; Ph.D., University of Miami, Florida, 1977

STELTMANN, RAUNALF A.  Professor (Foreign Languages), 1963
DIP. I; DIP. II, Dr. Phil., University of Freiburg, 1953

STENMARK, DAVID E.  Professor-Program Director (Clinical Psychology), 1977
B.A.; Ph.D., University of Alabama, 1969

STEWARDS, SARAH J.  Professor (Natural Sciences), New College of USF, 1975—Sarasota Campus
B.S.; Ph.D., University of Texas, 1953

STEWARDS, WILLIAM L.  Associate Professor (Accounting), 1971
B.S., M.A.; D.B.A., Florida State University, 1971, C.P.A.

STEVENS, BRIAN  Professor (Chemistry), 1967
B.A., M.A., Ph.D., D.Sc., Oxford University, England, 1977

STEVENS, DANA N.  Assistant Professor (Social Sciences), New College of USF, 1976, Sarasota Campus
B.A.; Ph.D, Stanford University, 1973

STEVENS, LARRY E.  Director (Student Health Service, Student Affairs), 1971
B.S.; M.D., University of Kentucky, 1970

STEVENS, NOEL S.  Associate Professor (Music), 1970
B.M., M.M., D.M.A., Eastman School of Music, 1959, Artist's Diploma

STEVENS, THERESA E.  Counselor to Students (Housing and Food Service, Student Affairs), 1978
B.A., M.A., University of South Florida, 1978

STEVENS, WILLIAM D.  Professor (Marketing), 1968
A.B.; Ph.D., Harvard University, 1950

STEWARD, LAWRENCE R.  Lecturer (Educational Leadership Education), 1970—St. Petersburg Campus (Part time)

STEWART, CHARLES D.  Associate Professor (Psychology), 1972
B.S.; M.A., Ph.D., University of Iowa, 1954

STIRLING, HAMILTON I.  Professor (Management), 1971—St. Petersburg Campus
B.S.; M.B.A., Rutgers University, 1968

STITH, MELVIN T.  Assistant Professor-Assistant Dean (Business Administration), 1977
B.A.; M.B.A., Ph.D., Syracuse University, 1977

STITH, PATRICIA L.  Counselor/Adviser (University Studies, Student Affairs), 1977
B.S.; M.A.; M.S., Syracuse University, 1976
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<tr>
<th>Name</th>
<th>Position</th>
<th>Institution/Year</th>
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<tr>
<td>Stone, Douglas E.</td>
<td>Professor (Measurement and Research Education)</td>
<td>1964</td>
</tr>
<tr>
<td>B.A., M.A., Ph.D., University of Chicago, 1962</td>
<td></td>
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<td>Stone, Leo D.</td>
<td>Visiting Professor (Finance)</td>
<td>1974—St. Petersburg Campus</td>
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<td>Stouffer, Karl</td>
<td>Instructor (Mass Communications)</td>
<td>1973</td>
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<tr>
<td>Abitur, Deutsche Oberschule, Berlin, 1942</td>
<td></td>
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<td>Story, Colleen M.</td>
<td>Associate Professor (Guidance Education)</td>
<td>1965</td>
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<tr>
<td>B.S., M.S., Florida State University, 1951</td>
<td></td>
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<tr>
<td>Sullivan, Mary S.</td>
<td>Associate Librarian (Educational Resources)</td>
<td>1968</td>
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<td>B.M.; M.A., University of South Florida, 1970</td>
<td></td>
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<td>Taylor, Charles D.</td>
<td>Assistant Professor (Comprehensive Medicine)</td>
<td>1978</td>
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<tr>
<td>A.B.; M.D., Emory University School of Medicine, 1972</td>
<td></td>
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<td>Taylor, Richard N.</td>
<td>Assistant Professor (Philosophy)</td>
<td>1969</td>
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<td>B.A.; B.D.; M.Phil., Yale University, 1969</td>
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<td>Taylor, Spafford C.</td>
<td>Associate Professor (Physical Education, Student Affairs)</td>
<td>1963</td>
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<tr>
<td>B.S.; M.A., George Peabody College, 1960</td>
<td></td>
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<tr>
<td>Taynton, Janet L.</td>
<td>Visiting Instructor (Economics)</td>
<td>1978</td>
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<td>B.S., M.B.A., University of South Florida, 1978</td>
<td></td>
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<td>Tedesco, Thomas A.</td>
<td>Assistant Professor (Pediatrics)</td>
<td>1974</td>
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<td>B.S.; Ph.D., University of Pennsylvania, 1969</td>
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<td>Territo, Leonard</td>
<td>Associate Professor (Criminal Justice)</td>
<td>1978</td>
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<td>B.A., M.A.; Ed.D., Nova University, 1975</td>
<td></td>
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<td>Thrapp, Sheryl L.</td>
<td>Provisional Systems Coordinator (Computer Research Center)</td>
<td>1977</td>
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<td>B.S., Furman University, 1975</td>
<td></td>
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<td>Thieleke, Ernest A.</td>
<td>Associate Professor (Mathematics)</td>
<td>1970</td>
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<td>B.S.; M.S.; Ph.D., University of Chicago, 1968</td>
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<td>Thomas, Delbert C.</td>
<td>Systems Coordinator (Computer Research Center)</td>
<td>1968</td>
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<td>B.S.; M.B.A., Rollins College, 1967</td>
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<td>Thomas, Shirley M.</td>
<td>Institutional Research Coordinator (Institutional Research)</td>
<td>1969</td>
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<td>B.S.; Ed., State University of New York, Brockport, 1951</td>
<td></td>
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<td>Thompson, Robert B.</td>
<td>Counselor/Adviser (Business Administration)</td>
<td>1976</td>
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<td>B.A., University of South Florida, 1976</td>
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<td>Thompson, Sherman</td>
<td>Associate Professor (Adult and Vocational Education)</td>
<td>1966</td>
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<td>B.A., M.A.; Ph.D., Florida State University, 1976</td>
<td></td>
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<td>Tillman, James S.</td>
<td>Associate Librarian (Medical Center Library)</td>
<td>1972</td>
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<td>B.A.; M.L.S., Emory University, 1970</td>
<td></td>
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<td>Tipts, G. Kelly</td>
<td>Assistant Professor (History)</td>
<td>1969</td>
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<td>B.A., M.A.; Ph.D., University of Colorado, 1971</td>
<td></td>
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<td>Tipton, Henry C.</td>
<td>Assistant Professor (Biology)</td>
<td>1965</td>
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<td>B.S., M.S., Ph.D., Mississippi State University, 1965</td>
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<td>Tocco, Thomas S.</td>
<td>Associate Professor (Measurement and Research Education)</td>
<td>1970</td>
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<td>B.S.; M.A.; Ed.D., University of Florida, 1970</td>
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<td>Toole, David, Jr.</td>
<td>Visiting Lecturer (Mass Communications)</td>
<td>1978</td>
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<td>B.A., University of Maryland, 1970</td>
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<td>Tomaino, Joseph M.</td>
<td>Director, Alumni Affairs (University Relations)</td>
<td>1967</td>
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<td>B.A.; M.A., University of South Florida, 1971</td>
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<td>Toomey, Kathleen E.</td>
<td>Assistant Professor (Pediatrics)</td>
<td>1977</td>
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<td>B.S.; M.D., Woman's Medical College of Pennsylvania, 1973</td>
<td></td>
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<td>Tothman, Rex C.</td>
<td>Associate Professor (Adult and Vocational Education)</td>
<td>1970</td>
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<tr>
<td>A.B.; M.A., Florida Southern College, 1947</td>
<td></td>
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<td>Torchynski, Elise</td>
<td>Assistant Professor (Opthalmology)</td>
<td>1975</td>
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<td>B.S.; M.D., Marquette School of Medicine, 1969</td>
<td></td>
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<td>Towery, Gene M.</td>
<td>Associate Professor (Reading Education)</td>
<td>1970—St. Petersburg Campus</td>
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<td>B.S.; M.S., Ed.D., Florida State University, 1971</td>
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<td>Towery, Henry H.</td>
<td>Associate Professor (Marketing)</td>
<td>1970</td>
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<td>B.S.; M.B.; D.B.A., Florida State University, 1969</td>
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<tr>
<td>Trask, Roger R.</td>
<td>Professor (Interdisciplinary Social Sciences)</td>
<td>1973</td>
</tr>
<tr>
<td>A.B.; M.A., Ph.D., Pennsylvania State University, 1959</td>
<td></td>
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<tr>
<td>Tremmel, William C.</td>
<td>Professor-Chairperson (Religious Studies)</td>
<td>1969</td>
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<tr>
<td>A.B.; Th.M., Th.D., Illiff School of Theology, 1950</td>
<td></td>
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<td>Trice, Isaiah</td>
<td>Assistant Professor (Physical Education, Student Affairs)</td>
<td>1970</td>
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<tr>
<td>B.S.; M.B.A., University of Colorado, 1961</td>
<td></td>
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<tr>
<td>Troutman, Andria M.</td>
<td>Professor (Math Education)</td>
<td>1971</td>
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<td>B.S.; M.A.; Ed.D., University of Florida, 1971</td>
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</table>
WILLIAMS, James R.  
Associate Professor (Anthropology), 1969

WILLIAMS, JAMES R.  
Associate Professor (Math Education), Scheduling Coordinator (Education Program), 1970—St. Petersburg Campus

B.S.; M.Ed., Ed.D., University of Georgia, 1970

WEINBERG, HERMAN  
Associate Professor-Chairperson (Physical Education, Education), 1970

B.S.; M.A.; Ed.D., Temple University, 1969

WEINGARTNER, Charles  
Professor (Psychological and Social Foundations Education), 1970

B.S., M.A.; Ed.D., Columbia University, 1958

WEINZIEL, Jon E.  
Assistant Professor (Chemistry), 1973

B.S.; Ph.D., California Institute of Technology, 1968

WELKER, Robert F.  
Associate Professor (Accounting/Law), 1966

A.B.; J.D.; M.B.A., University of South Florida, 1974

WELLS, DANNIEL  
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B.A.; M.A., Ph.D., Duke University, 1972

WENCHEL, Janick M.  
Counselor to Students (Housing and Food Service, Student Affairs), 1978

B.A.; M.S., Florida State University, 1978

WENZEL, STEVEN G.  
University Attorney (General Counsel), 1972

B.A.; J.D., University of Florida, 1972

WENZINGER, George R.  
Associate Professor (Chemistry), 1963

A.B.; Ph.D., University of Rochester, 1960

WEST, Robert J.  
Professor-Chairperson (Accounting/Business Law), 1964

B.S., M.S., Florida State University, 1961, C.P.A.

WEST, William W.  
Professor (Social Science and Letters Education), 1970

B.A.; M.A.; Ph.D., Syracuse University, 1966

WESTNIGHT, KATHRYN A.  
Area Administrator (Housing and Food Service, Student Affairs), 1975

B.S., M.Ed., University of Miami, Florida, 1975

WHEELER, RAYMOND H.  
Professor (Sociology), 1965

B.S.; M.A.; Ph.D., University of Michigan, 1962

WHEELER, William  
Assistant Professor (Psychology), 1974

B.A.; Ph.D., University of California, Irvine, 1974

WHITAKER, ROBERT D.  
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B.S.; Ph.D., University of Florida, 1959

WHITE, MICHAEL J.  
Assistant Professor (Management), 1968

B.E.E.; M.B.A.; Ph.D., University of Florida, 1972

WHITE, ROBERT L.  
Visiting Assistant Professor (Social Work Program), 1978

A.B.; M.S.W., University of North Carolina, 1963

WHITNEY, VERNON W.  
Associate Professor (Social Science and Letters Education), 1966


WHITSON, Paul D.  
Assistant Professor (Chemistry), 1975

B.A.; Ph.D., University of Wisconsin, 1973

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