combined stresses; design of a typical framed building including connections. Prereq: 461.

474 Reinforced Concrete Design (3) Reinforced concrete structural elements, columns with combined axial loads and bending, footings and retaining walls. Prereq: 461.

480 Water and Waste Transport (3) Theory and design of water, gas, and oil transmission systems; wastewater collection systems and solid waste collection systems. Prereq: 390.

485 Principles of Geohydrology (3) [Same as Geology 485.]

490 Water Resources Project Design (3) Development of multi-purpose reservoir and dam project, including data acquisition; spillway and outlet works design; earthfill and gravity dam stability analyses, drains and filters, maintenance and operation; and dam safety concepts, including dam break analyses. Prereq: 390, 395.

494 Urban Drainage Engineering (3) Design and management of stormwater conveyance and wastewater collection systems; application of hydraulic and hydrologic principles to design of drainage systems for urban, strip mining, and other areas; surface water pollution; and the design of stormwater drainage systems. Prereq: 390, 395.

495 Water Resources Development and Management (3) Institutional framework including: water law, evaluation procedures for comparing and selecting among water resources development alternatives, multi-objective planning, principles of engineering economics, benefit-cost analysis, allocation of resources, environmental impact assessment procedures; decisions using risk-based methods; case studies. Prereq: Senior standing.

ENGINEERING ELECTRICAL AND COMPUTER (320)

201 Circuits I (3) Fundamental laws of circuit analysis. Ohm's Law, Kirchoff's current and voltage laws, the law of conservation of energy, circuits containing independent and dependent voltage and current sources, resistance, conductance, capacitance and inductance analyzed using mesh and nodal analysis; superposition and Thevenin's and Norton's Theorems. Steady state analysis of DC and AC circuits. Complete solution for transient analysis for circuits with one or two storage elements. Prereq: All course work in the Freshman Engineering curriculum. Coreq: Physics 231 and Mathematics 231.


209 Circuits II Laboratory (0) Use of computer in lab preparation and analysis of circuits. Use of voltmeters, ammeters, and oscilloscopes; RLC transients; active element - operational amplifier; measurement of voltages and the phasor plots. Frequency response of RLC circuits; simulation of RLC circuits with operational amplifiers; components of typical circuits demonstrating electrical energy discussed in 321. Coreq: 321.

211 Small Computer Systems (3) Structured assembly language programming; data collection under the control of the personal computer using A/D converters; D/A converter output to CRT displays; paper tape inputs using elementary filters; communications between computers; spreadsheet applications; word processing; operating systems; terminal design analysis, the transformer; digital simulation of solution of second order differential equations. Passing grade is required in order to pass 202. Coreq: 202.

251 Computer Lab (0) Experiments and projects demonstrating computers discussed in 251. Coreq: 251.

301 Circuits and Electro Mechanical Components (3) AC and DC circuits. Transformers, transformers, Motors, Generators. For non-majors only. Prereq: Mathematics 231, Physics 231.


319 Systems Lab (0) Experiments and projects demonstrating systems discussed in 312. Coreq: 321.


329 Electrical Energy Lab (0) Experiments and projects demonstrating electrical energy discussed in 321. Coreq: 321.

331 Electronic Devices (3) Fundamentals of energy band theory; vacuum diodes, field effect transistors, and bipolar transistors; integrated circuit fundamental concepts; device applications, simple power supplies, and amplifiers. Design content: 1 hour. Prereq: 202. Coreq: 335.

332 Electronic Circuits (3) Multistage transistor amplifier biasing; gain stages, and output stages; frequency and transient response of open loop linear amplifiers; fundamentals of integrated circuit operational amplifiers, applications in basic feedback configurations; basic transistor switching circuits. Design content. 2 hours. Prereq: 331. Coreq: 339.

339 Electronics Devices Lab (0) Experiments and projects discussed in 331. Coreq: 331.

349 Communications Lab (0) Experiments and projects demonstrating electronics discussed in 332. Coreq: 332.

349A Communication Systems 1 (3) Systems analysis, design and operation of communication systems. Topics include signal and system transmission, Hilbert Transform techniques, power spectral density and correlation, and sampling theory. Analog modulation techniques including amplitude, angle, and frequency modulation with application to radio and television transmission. Prereq: 201.

349B Communication Systems 2 (3) Communication systems study of communication systems. Topics include signal and system transmission, Hilbert Transform techniques, power spectral density and correlation, and sampling theory. Analog modulation techniques including amplitude, angle, and frequency modulation with application to radio and television transmission. Prereq: 201. Coreq: 349.

349C Communication Systems 3 (3) Systems analysis of communication systems. Topics include signal and system transmission, Hilbert Transform techniques, power spectral density and correlation, and sampling theory. Analog modulation techniques including amplitude, angle, and frequency modulation with application to radio and television transmission. Introduction to random variables and stochastic processes. Prereq: 311. Coreq: 349.


351 Introduction to Logic Design of Digital Systems (3) Boolean algebra and logic design of combinational and sequential circuits. Gate and flip-flop characteristics for CMOS and TTL technologies; implementation of digital circuits using SSI, MSI, and LSI parts. Basic microcomputer architecture and organization. Design content: 2 hours. Coreq: 326.

359 Computers Lab (0) Experiments and projects demonstrating computers discussed in 351.

359A Introduction to Plasma Engineering (3) Particle motion in electric and magnetic fields; collective motions of charged particle plasmas; plasma diagnostics and the Langmuir probe; plasma light sources and lasers; radio waves in plasmas and the ionosphere; N-MHD generators and fusion energy and plasma etching for microelectronics. Prereq: 202 for ECE majors; or Physics 232 or 236 for all others. Coreq: 360.

369 Plasma Engineering Lab (0) Experiments and projects demonstrating plasma engineering concepts discussed in 361. Coreq: 361.


409 Digital Signal Processing and Filter Design Lab (0) Experiments and projects demonstrating digital signal processing and filter design discussed in 405. Coreq: 405.


412 Linear Control System Design (3) Classical and modern techniques for design of linear feedback control systems; root locus method, compensation, state feedback. Design content. 3 hours. Prereq: 411.

413 Passive and Active Network Synthesis (3) Network analysis techniques, passive network driving point synthesis, transfer function synthesis, approximation theory, topics in active network synthesis. Design content. 3 hours. Prereq: 312.


425 Direct Electrical Energy Conversion (3) Principles and practices of energy conversion devices and interfacing them to loads. Includes photovoltaics, MHD, and fuel cells. Design content. 2 hours. Prereq: 321.

426 Machines Lab (1) Experiments and projects demonstrating machines discussed in 422. Coreq: 422.

429 Power Electronics Lab (1) Experiments and projects demonstrating power electronics discussed in 423.

430 Digital and Analog Integrated Electronics (4) Basic processing and fabrication of active and passive components for monolithic integrated circuits; characteristics of bipolar, MOS, and JFET transistors in typical analog and digital integrated circuit designs; standard digital logic circuits including TTL, ECL, Schottky, NMOS, CMOS, and GaAs gates and arrays; design concepts for cp-amps, comparators, references, regulators, and other linear functions. Design content: 2 hours. Prereq: 332. Coreq: 435.

432 Analog Signal Processing Electronics (4) Transducer signal and interfacing characteristics; analog integrated circuits including operational, instrumentation, transducer isolation and coupling, converters, analog to digital and digital to analog converters, transmitters, and serial modulators and demodulators, sample and hold, and comparators. Design content: 3 hours. Prereq: 332. Coreq: 435.

433 Electronic Amplifiers (4) Feedback amplifier principles; wideband linear amplifier design; radio frequency power amplifiers, and power supplies; regulated power supply design; oscillator principles. Design content. 3 hours. Prereq: 332. Coreq: 439.

455 Digital and Analog Integrated Electronics Lab (0) Variables, and experiments demonstrating electronics
452 Organization and Design of Digital Systems and assemblers, file management, and emulation capability.

451 Microprocessors in Computer Engineering (4)


443 Microwave Circuits and Electronics (3) Scattered wave description of circuits to include isolators and amplifiers, couplers and power dividers, circulators, phase shifters, loading and interconnection of systems. RFU structures, control unit organization, storage syst solid state (bulk and junction) devices. Microwave switching, filtering and multiplexing devices. Transmission line and microwave components. Design content: 1 hour. Prereq: Coreq: 341.

442 Antennas and Propagation (3) Linear antennas, arrays, other simple antennas. Antenna gain, impedance, communication link parameters. Wave propagation in various media, model dependence upon number of media, reflections from earth, effects on link reliability. Design content: 1 hour. Prereq: 341.

441 Communication Systems II (3) Probability, random variables and processes as applied to communication systems. Analog modulation in the presence of noise. Digital communication concepts including binary and M-ary signaling, digital communication, multiplexing and equalization. Digital communications in the presence of noise and matched filtering. Information and Coding Theory. Prereq: 342.


438 Microprocessors in Computer Engineering (8) Project oriented using a microcomputer kit having a monitor program and development system with cross-compilers, linkers, and linkage editor. Experiments and design demonstrating microcomputer and electronics discussed in 433. Coreq: 431.


435 Data Acquisition Systems (4) Digital-to-analog conversion techniques, quant and R2R ladder networks; error analysis of D/A converters; sample/hold circuits, analog digital conversion techniques; open loop systems; direct and matrix converters; closed loop systems; dual slope and successive approximation; external analysis of D/A converters; accuracy, linearity, drift, dynamic range, frequency response, gain, grounds and shielding, automated testing of A/D and D/A converters; device service routines; sampling analysis. Design content: 3 hours. Prereq: Coreq: 435.


433 Microprocessors Laboratory (3) Experiments and projects demonstrating microprocessors discussed in 431.

456 Digital System Design Laboratory (0) Experiments and projects demonstrating digital systems discussed in 452.

455 Data Acquisition Systems Laboratory (0) Experiments and projects demonstrating digital communications discussed in 453.

454 Plasma Magneto-hydrodynamic (MHD) Engineering (3) The MHD approximation; MHD waves and instabilities; MHD in static and dynamic systems; MHD in pulsed and steady-state power generation. Applications to fusion energy, space, industry, and astrophysics. Design content: 1 hour. Prereq: 361.

453 Plasma Kinetic Theory Engineering (3) Introduces to kinetic theory; beam-plasma systems; driven wave beams; transition from multiple beams to a continuum; Vlasov and Landau theory; microwave generation in plasmas and traveling wave tubes; free electron lasers in circular geometry; the gyrotrode and orbitron. Design of plasma devices. Design content: 1 hour. Prereq: 361; or consent of instructor.

452 Introduction to Fusion Energy I (3) High-temperature plasma physics relevant to fusion plasma, principles of fusion reactors, and engineering and physical constraints on fusion reactors. Prereq: 361 for ECE majors, or consent of instructor. (Same as Nuclear Engineering 463.)

451 Introduction to Fusion Energy II (3) Continuation of 452. Includes principles and phenomenology of tokamak and stellarator magnetic confinement concepts, advanced fusion fuels, fusion technology, plasma engineering, and fusion reactor design studies. Includes design of D-T breeders, magnet design, shielding, and safety. Design content: 2 hours. Prereq: 452 or consent of instructor. (Same as Nuclear Engineering 464.)

450 Plasma Laboratory (1) Experiments and design projects in the areas covered in 461, 462, 463, and 465. Design content: 1 hour.

409 Time Study I (1-3) High temperature plasma physics relevant to fusion plasma, principles of fusion reactors, and engineering and physical constraints on fusion reactors. Prereq: 361 for ECE majors, or consent of instructor. (Same as Nuclear Engineering 463.)

406 Plasma Kinetic Theory Engineering (3) Introduces to kinetic theory; beam-plasma systems; driven wave beams; transition from multiple beams to a continuum; Vlasov and Landau theory; microwave generation in plasmas and traveling wave tubes; free electron lasers in circular geometry; the gyrotrode and orbitron. Design of plasma devices. Design content: 1 hour. Prereq: 361; or consent of instructor.


303 Production Facilities Design and Material Handling (3) Concept design of production facilities, including plant layout and analysis and planning for overall moving, packaging and storage of materials. This includes office layout and service planning, design and planning of facilities for such diverse groups as hospitals, banking, and industry. Prereq: 302, 451.

302 Senior Seminar (1) Discussions, lectures and trips to understand industrial operations. Prereq: Senior standing in Industrial Engineering.

301 Engineering Economy (2) Methods and problems in selection or replacement of equipment. Decisions among engineering alternatives involving capital recovery, economic life of equipment, and rate of return on investment.

300 Production Facilities Design and Material Handling (3) Concept design of production facilities, including plant layout and analysis and planning for overall moving, packaging and storage of materials. This includes office layout and service planning, design and planning of facilities for such diverse groups as hospitals, banking, and industry. Prereq: 302, 451.

302 Senior Seminar (1) Discussions, lectures and trips to understand industrial operations. Prereq: Senior standing in Industrial Engineering.

301 Engineering Economy (2) Methods and problems in selection or replacement of equipment. Decisions among engineering alternatives involving capital recovery, economic life of equipment, and rate of return on investment.

300 Production Facilities Design and Material Handling (3) Concept design of production facilities, including plant layout and analysis and planning for overall moving, packaging and storage of materials. This includes office layout and service planning, design and planning of facilities for such diverse groups as hospitals, banking, and industry. Prereq: 302, 451.

302 Senior Seminar (1) Discussions, lectures and trips to understand industrial operations. Prereq: Senior standing in Industrial Engineering.

301 Engineering Economy (2) Methods and problems in selection or replacement of equipment. Decisions among engineering alternatives involving capital recovery, economic life of equipment, and rate of return on investment.

300 Production Facilities Design and Material Handling (3) Concept design of production facilities, including plant layout and analysis and planning for overall moving, packaging and storage of materials. This includes office layout and service planning, design and planning of facilities for such diverse groups as hospitals, banking, and industry. Prereq: 302, 451.

302 Senior Seminar (1) Discussions, lectures and trips to understand industrial operations. Prereq: Senior standing in Industrial Engineering.

301 Engineering Economy (2) Methods and problems in selection or replacement of equipment. Decisions among engineering alternatives involving capital recovery, economic life of equipment, and rate of return on investment.

300 Production Facilities Design and Material Handling (3) Concept design of production facilities, including plant layout and analysis and planning for overall moving, packaging and storage of materials. This includes office layout and service planning, design and planning of facilities for such diverse groups as hospitals, banking, and industry. Prereq: 302, 451.

302 Senior Seminar (1) Discussions, lectures and trips to understand industrial operations. Prereq: Senior standing in Industrial Engineering.
365 Structural Characterization of Materials (4) X-ray diffraction and fluorescence; scanning and transmis-
son electron microscopy; microanalytical techniques.


320 Physical Metallurgy (3) Phenomenology and mi-
cro-mechanisms of plastic deformation in single and polycrystalline materials. Applications of crystallography and x-ray diffraction. Solidification of metals and alloys. Recovery and recrystallization processes of cold worked structures. Strengthening mechanisms in metal-
lic alloys. Prereq: 301, 3 hours or 2 hours and 1 hour lab. Sp

340 Introduction to Polymer Science and Engineer-
ing (Sp) Properties and unit operations of polymers; polymerization kinetics; molecular characterization; crys-
talline and glass transitions; crystallization kinetics; mechanical properties; rheology and processing. Prereq: 201. F

342 Structure-Property Relationships in Polymers (3) Crystal structure and morphology, structure-property relationships with respect to intrinsic, extrinsic, deformation modes and orientation types. Electrical properties of polymers. Prereq: 340 or consent of instructor. Sp

360 Introduction to Ceramic Materials and Processing (3) Chemical characterization. Crystal structure, their mechanical, electrical, and optical properties. Ceramic fabrication processes from the initial green body fabrication through the firing state. Prereq: 201

421 Mechanical Metallurgy (3) Brittle fracture due to metallurgical and environmental factors; stress-life and stress-rupture; finite plastic strain; ductile fracture; fab-
rication by forging, rolling, deep drawing, stretch forming; formability testing. Prereq: 302, or 201 and MEE 466. Also suggested for mechanical engineering and engi-
neering science and mechanics majors. F

422 Chemical Process Metallurgy (3) Application of chemical principles to metal processing. Ferrous and nonferrous pyrometallurgical refining, slag-
metal equilibria; solidification, gas-metal processing. Prereq: 302. F

423 Metallurgical Fabrication (3) Principles and proc-
esses of welding, casting and powder metallurgy; solidi-
fication, segregation, heat flow, microstructure, residual stresses; creep and stress-rupture; finite plastic strain; ductile fracture; fabrication by forging, rolling, deep drawing, stretch forming; formability testing. Prereq: 320 (3 hours or 2 hours and 1 lab.) Sp

424 Metallurgical Process Design (3) Property control through composition, thermal and mechanical process-
ing, material and processes, collection, stocks and non-
ferrous alloys. Prereq: 201. Sp

425 Metallurgical Applications in Manufacturing and Processing (3) Fabrication methods, standards and specifications. Metallurgical processing for finished and semi-finished products; casting; forming, joining, heat treatment, powder metallurgy, corrosion control. Prereq: 200. F

442 Mechanical Properties of Polymers (3) Deforma-
tion in the amorphous and crystalline states; isotropic and anisotropic properties; phenomenological and mo-
cular interpretations. Rubber elasticity; thermodynam-
ics and mechanical behavior in terms of the statistics of networks. Yielding and crazing. Fiber drawing; structural models, technology, viscosity; rubber under a super-
position principle; time-temperature superposition. In-
ternal friction. Prereq: 302, 340 or consent of instructor. F

443 Polymer Processing (3) Rheological measure-
ments, flow through tubes and slits, including end effects and extrude swell; selected applications, including screw extrusion, injection molding, synthetic fibers, including structure development, properties. F

444 Plastics Fabrication and Design (3) Lectures, laboratories and field trips; unit operations of plastics fabrication; plastic processing; injection molding; synthetic fibers; application selection criteria; processing techniques; characterization labo-

370 Dynamics and Vibrations of Machines (3) Free and forced vibration of single and multiple degree vibrat-
ing systems. Balancing of rotating equipment. Gyro-


494 Special Project Laboratory (1-3) Group or individ-
ual investigation of problems related to materials sci-
ce and engineering. May be repeated once. Prereq: Senior standing or consent of instructor. F, Sp

495 Thesis (3) Research problems in materials science and engineering with prior approval of a professor. May be repeated once. Prereq: Senior standing or consent of instructor. F, Sp

496 Special Topics in Materials Science and Engi-
neering (1-3) Recent developments in materials re-
search, developments and/or applications. Prereq: Senior standing or consent of instructor.

ENGINEERING MECHANICAL (650)

331 Thermodynamics I (3) Energy and laws governing energy transformations; thermodynamic properties; thermodynamic cycles; applications to engineering problems. Prereq: Chemistry 130, and Mathematics 231. F, Sp, Su

332 Thermodynamics II (3) Properties of gases and mixtures; chemical reactions. Viscosity and kinematics of viscous fluids; applications to engineering problems. Prereq: 331. F, Sp, Su

341 Fluid Flow (3) Development of mass, momentum, and energy principles for fluid systems; dimensional analysis of external and internal flows. Prereq: ES&M 231. Mathematics 231 F, Sp, Su

344 Heat Transfer (3) Heat transfer by conduction, thermal radiation, free and forced convection. Prereq: 331, 341, 391. F, Sp, Su

345 Mechanical Engineering Instrumentation and Measurement (3) Fundamentals of measurement sys-
tems; standards; dynamic characteristics of instruments; statistical data treatments; transducers; signal condition-
ing; strain, pressure, temperature and flow measure-
ments. Coreq: 363, Prereq: 341, 344, 345, Su

363 Dynamics and Vibrations of Machines (3) Free and forced vibration of single and multiple degree vibrat-
ing systems. Balancing of rotating equipment. Gyro-

366 Manufacturing Processes (2) Processes related to design of machine parts. Casting, hot and cold forming, metal removal and weldments. Manufacturing tolerances and surface finishes. Prereq: Materials Science 201, F, Sp


401 Thesis (3) Problem investigation and report. Prereq: Senior standing, F, Sp, Su

415 Energy Conversion Systems (3) Fossil fuel energy conversion systems with emphasis on coal technology. Coreq: 475.

416 Turbo-Machinery (3) Basic principles of turbo-machinery; systematic methods of analysis, design, performance evaluation. Prereq: Aerospace Engr. 351.

422 Environmental Noise (3) Acoustics - measurements and control of noise in industrial and community environments. Prereq: Senior standing in engineering or consent of instructor.

431 Seminar (1) Topics related to engineering including ethics. Formal oral presentation by students on engineering topics. Prereq: Senior standing, F.

445 Lubrication (3) Hydrodynamic theory of lubrication of sliding bearings; application of Navier-Stokes equations to infinite and finite bearings; analytical and numerical solutions; applications to design. Prereq: 344, Aeronautical Engr. 351.

449 Mechanical Engineering Laboratory (3) Designing, conducting and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formation of conclusions. 3 hours per week. Prereq: 332, 344, 345. Coreq: 475. F, Sp, Su

451 Systems and Controls (3) Analytical models of physical systems; comprised of combinations of mechanical, electrical, and thermal components; feedback control systems, transient and frequency response, stability analysis; non-linear control of linear systems; sampled data systems, digital filters. Prereq: 341, 363, ECE 301-302. F, Sp

455 Introduction to Machine Design (2) Engineering economy, optimization, design for automation, reliability, patents and product liability; design of mechanical engineering solid mechanics systems. Participation in team design effort; requires design report. Prereq: 363, 465. F

456 Introduction to Thermal Design (2) Engineering economy, optimization, design for automation, reliability, patents and product liability; design of mechanical engineering thermal-fluid systems. Participation in team design effort; requires design report. Prereq: 332, 344.

461 Turbo-Machinery (3) Basic principles of turbo-machinery; systematic methods of analysis, design, performance evaluation. Prereq: Aerospace Engr. 351.

494-495 Selected Topics in Mechanical Engineering (1,1) Problems and topics related to developments and practice in mechanical engineering. Prereq: Consent of instructor, F, Sp, Su

ENGINEERING NUCLEAR (716)

201-202 Seminar (1,1) Topics related to nuclear engineering. Satisfactory/No credit.

203 Thermodynamics I (3) First law analysis of open and closed systems; ideal gases and real fluids. Prereq: Mathematics 231.

204 Thermodynamics II (3) Second law, development of entropy concept and availability. Various power plant cycles and systems. Prereq: 203.

301 Introduction to Nuclear Engineering (3) Nuclear systems, radioactive decay, cross sections, flux, health physics, reactor theory. Prereq: Physics 232, Mathematics 231.

302 Introduction to Nuclear Reactor Theory (3) Fundamental physical laws and mathematical methods of nuclear reactors; reactor kinetics, nuclear systems and nuclear data. Analytical and numerical methods applicable to general criticality problems; eigenvalue searches, perturbation theory, and the multigroup diffusion equations. Prereq: 301.

304 Nuclear Engineering Laboratory (3) Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes, gamma spectrometry, heat transfer experiments. Prereq: 305. Coreq: 302.

305 Energy Transport (3) Development of differential and integral energy conservation; conduction and convection; heat transfer including numerical methods; application to nuclear reactor fuel elements, reactor cores, and systems. Prereq: 302. Coreq: 306.

306 Designing for Energy Transport (3) Radiation heat transport; hydrodynamics and heat transport in boiling and condensing system; boiling crises; fuel element and heat exchanger thermal design, steam generator design. Prereq: 305.

310-311 Thermalhydraulics (3,3) Energies and the manner in which they are transferred and transported. First and second laws of thermodynamics with applications from power cycles, transfer of heat through conductive and radiative mechanisms; and development of fluid flow principles for the transport of energy. Prereq: Mathematics 241.

342 Thermal Science (3) Fluid statics; conservation equations of mass, momentum, and energy; applications to fluid machinery; heat transfer processes, heat conduction, thermal radiation, free and forced convection. For non-departmental majors only.

401 Nuclear Reactor Theory (3) Thermal spectrum computational methods; heterogeneous effects in fast and thermal spectra; considerations in reactor core design; equations that relate thermal and neutron variables; power distribution calculations and reactivity control methods. Coreq: 341.

402 Nuclear System Design (3) First order design and analysis of a nuclear system, interface with non-nuclear aspects of system design including system reliability and economics, class project. Prereq: 401.
333 Black American Literature and Aesthetics (3) Black American literature and aesthetics since 1899, with emphasis on cultural evaluations and the principles of “African-American” writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

334 Film and American Culture (3) American films as both art and social documents. Relationship between the medium of film and American culture in the twentieth century. (Same as American Studies 334 and Cinema Studies 334) Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

351 The Short Story (3) Emphasis on 20th century American, British, and International.

355 Advanced Expository Writing (3) Strategies of writing on personal and academic subjects. Discussion of student and professional writing. Open to sophomores with instructor's consent.

363 Writing Poetry (3) Introduction to writing poetry.

364 Writing Fiction (3) Introduction to writing novels and short stories.

365 Writing Drama and the Screenplay (3) Introduc- tion to writing one-act and full-length plays, as well as screenplays.

371 Foundations of the English Language (3) Phonology, morphology, and syntax of English. History of the English language to 1900. (Same as Linguistics 371.)

372 The Structure of Modern English (3) Survey of approaches—traditional, descriptive, and generative-transformational—to the structure of modern English. (Same as Linguistics 372.)

376 Colloquium in Literature (3) Methods and objec- tives of literary study; conferences to plan student's program in major.

379 Literary Criticism (3) Historical survey of major works of literary criticism.

381 Introduction to Folklore (3) Essential terms and concepts in modern folklore-folk-life studies. Emphasis on North American materials: folktale, folksong, myth, legend, proverb, riddle, superstitions, dance, games, and architecture.

389 Literature of the English Bible (3) Types of litera- ture in the Bible: legend, folktale, history, biography, poetry, prophecy, apocalyptic. (Same as Religious Studies 389.)

398 Junior-Senior Honors Seminar (3) Designed for (but not limited to) students with a 3.2 or better GPA, this course examines social and intellectual forces and concepts that have shaped literature in English from medieval to recent times.

401 Medieval Literature (3) Reading and analysis of selected medieval literary masterpieces in modern English. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

402 Chaucer (3) Reading and analysis of the Center- bury Tales and Troilus and Criseyde in Middle English.

404 Shakespeare I: Early Plays (3) Shakespeare's dramatic achievement before 1601. Selected plays from the romantic comedies (e.g., Twelfth Night), the English histories (e.g., Henry IV) and early tragedy (e.g., Hamlet).

405 Shakespeare II: Later Plays (3) Shakespeare's dramatic achievement between 1601 and 1613. Selections from the late tragedies (e.g., Othello), the problem plays (e.g., Measure for Measure), and the dramatic romances (e.g., The Tempest).

406 Renaissance Drama (3) English theatre between 1590 and 1640. Representative plays by Shakespeare's contemporaries (e.g., Marlowe, Webster, Jonson).

409 Spenser and his Contemporaries (3) Principal achievements in prose and poetry of the first two-thirds of the seventeenth century (such as the poetry of Milton, Donne, Marvell, and the prose of Browne, Bacon, Walton).

411 Restoration and Eighteenth-Century Poetry and Prose (3) Dryden, Swift, Pope, Johnson, and their contemporaries with emphasis on major works such as MacFiedcne, Rape of the Lock, Gulliver's Travels, and Rasselas.

412 British Drama from 1660 to 1800 (3) Playwrights from Dryden and Wycherley to Goldsmith and Sheridan, including forms and developments such as heroic play, comic tragedy, affective tragedy, and exemplary drama.

413 The Eighteenth-Century British Novel (3) Se- lected British novels from Defoe and Austen.

414 Romantic Poetry and Prose I (3) Emphasis on Wordsworth, Coleridge, and Blake, with readings from Lamb, De Quincey, and other prose writers.

415 Romantic Poetry and Prose II (3) Emphasis on Keats, Shelley and Byron, with readings from Hazlitt, Peacock, and other prose writers.

416 Victorian Poetry and Prose I (3) Emphasis on authors such as Browning, Arnold, Hopkins, Hardy, Raskin, Darwin, and Wilde.

420 The Nineteenth-Century British Novel (3) Major novelists from Scott to Hardy.

421 Modern British Novel (3) Includes such authors as Lawrence, Joyce, Woolf.

422 Women Writers in England (3) Emphasis on the literary consciousness and works of British women writers in the nineteenth and twentieth centuries. (Same as Women's Studies 422.)

431 Colonial, Federal, and Early National American Literature (3) Colonial, federal and early national American literature from Columbus to Washington Irving.

432 American Romanticism and Transcendentalism (3)

433 American Realism and Naturalism (3)

434 Modern American Literature (3) World War I to the present.

435 American Novel Before 1900 (3) From earliest sentimental novels through Brown and Cooper, and major figures to 1900, including Hawthorne, Melville, Stowe, Clemens, and James.

436 Modern American Novel (3) Authors such as Faulkner, Steinbeck, Welty.

441 Southern Literature (3) Southern writing from col- onial period to the twentieth century, including frontier humorists, local color writers, and southern literary renaissance.

442 American Humor (3) Development of American humor from the early nineteenth century into the twen- tieth century, with particular emphasis on Mark Twain.

443 Topics in Black Literature (3) Contents vary according to particular genres, authors, or theories from 1845 to the present, including Langston Hughes and the Harlem Renaissance, Richard Wright and Gwendolyn Brooks, writing by Black women, international Black literature in English, and Black American autobiogra- phy.

451 Modern British and American Poetry (3) From Yeats and Frost to Auden, Stevens, and more recent poets.

452 Modern British and American Drama (3) O'Neill's works as representative modern dramatists, such as Williams, Miller, Abee, and representatives of Black theater, like Bullins and Baraka.

453 Continental Drama (3) Plays in English translation by major European writers from the late Renaissance to the present, with some emphasis on the twentieth- century achievement.

454 Twentieth-Century International Novel (3) Such authors as Camus, Ancel, and others.

455 Persuasive Writing (3) Persuasive strategies in student and professional writing. Practice in mastering effective logical and emotional appeals.

456 Professional Writing (3) Principles and practices of writing for publication. Dissertations, theses, articles, and reports in science and technology. Prereq: 459 or consent of instructor.

459 Advanced Technical Writing (3) For students planning careers in industry, education, and govern- ment who need technical writing skills. Writing of defini- tions, process descriptions, sets of instructions, descrip- tions of mechanisms, recommendation reports, abstracts, proposals, and major reports. Prereq: Junior standing in student's major or consent of instructor.

460 Technical Editing (3) Editing technical material for publication. Principles of style, format, graphics, layout, and production management. Prereq: 456 and 459, or consent of instructor.

463 Advanced Poetry Writing (3) Development of skills acquired in basic Writing Poetry course. Prereq: 363 or consent of instructor.

464 Advanced Fiction Writing (3) Development of skills acquired in basic Writing Fiction course. Prereq: 363 or consent of instructor.


472 American English (3) Phonological, morphologi- cal, and syntactic characteristics of major social and re- gional varieties of English. امphasis on their origins, functions, and implications for cultural pluralism. Prereq: 371 or 372 or Linguistics 200 or consent of instructor. (Same as Linguistics 472.)

475 Teaching English as a Second or Foreign Lan- guage I (3) Grammarian structural approach. English with emphasis on particular grammatical difficulties of non- native learners of English. Basic phonological structures of English. Teaching grammar and phonology to non- native speakers with some attention to contrastive analysis of English with other languages. Prereq: Sec- ond year of a foreign language. (Same as Linguistics 474.)

476 Teaching English as a Second or Foreign Lan- guage II (3) Second language acquisition theory. Issues in teaching the four language skills to learners of English. Materials and methods of language teaching and testing with emphasis on preparation of materials. Ob- servations of elementary and middle school experienced staff member. Prereq: 474. (Same as Linguistics 475.)


481 Studies in Folklore (3) Topic varies. May be re-peated with different topic. Maximum 6 hours.

482 Major Authors (3) Content varies. Concentrated study of at least one of the most influential writers in British or American literary history: e.g., Donne, Ten- nyson, Jane Austen, Whitman, Faulkner, Baldwin or Lawrence.

483 Special Topics in Literature (3) Topics vary. May be repeated. Maximum 6 hours.

484 Special Topics in Writing (3) Original writing inte- grated with reading, usually taught by a professional author. Topics vary. May be repeated. Maximum 6 hours.

485 Special Topics in Language (3) May be repeated. Maximum 6 hours with consent. (Same as Linguistics 485.)

486 Special Topics in Criticism (3) Content varies. Special topics in theoretical and practical approaches to British and American literature. May be repeated with consent of department. Maximum 6 hours.

489 Special Topics in Film (3) Content varies. Particu- lar directors, film genres, national cinema movements, or other topics. May be repeated with consent of depart- ment. Maximum 6 hours. (Same as Cinema Studies 489.)

491 Foreign Study (1-15) Seeing, studying, and writing about drama as performed in London and Stratford- upon-Avon during academic year.

492 Off-Campus Study (1-15) Seeing, studying, and writing about drama as performed in New York City.
493 Independent Study (1-15) Tutorial in subjects not adequately covered in regular courses.

498 Senior Honors Paper (3) Intended for (but not limited to) students with a 3.2 or better GPA, this is an individual tutorial in which the student prepares a documented study or creative project that is more substantial than what can be accomplished in a standard course. See the Director of Undergraduate Studies in English for details.

ENTOMOLOGY AND PLANT PATHOLOGY (341)
306 Forest Protection (3) Biological, economic and legal consideration of fire, pathogens, insects, vertebrates, wind, and pollutants in the forest ecosystem. One or more day trips and overnight field trips may be required. 2 hours and 1 lab. Sp, E

313 Plant Pathology (3) Principles of plant pathology illustrated by diseases of common agricultural crop plants. Prereq: Six hours of Biological Science. 2 hours and 1 lab. Same as Botany 313). F, E

321 Economic Entomology (3) Structure, life history, habits and principles of control of important pest insects of writing, storage, and household. Prereq: Six hours of Biological Science. 2 hours and 1 lab. Sp, E

325 Veterinary Entomology (3) Identification, biology and control of arthropods that attack major livestock species. Prereq: Microbiology, methods of insect control, major pest species groups and problems associated with specific host production operations. Prereq: Biology 122 or equivalent. 2 hours and 1 lab. F, E

FINANCE (349)
Accounting 201-202, Economics 201, and Statistics 201 are prerequisite to all Finance courses. Finance 301 is prerequisite to all 400 level courses.

301 Financial Management (3) Principles of financial management. Investment, financing and asset management functions of the firm.

400 Special Topics (3) Seminar. Topic(s) announced prior to offering.

421 Investment Analysis (3) Principles and concepts of asset valuation in competitive and efficient financial markets. Basic analytical tools are developed and used to study valuation of different types of securities. Major writing requirement.

422 Portfolio Analysis and Management (3) Portfolio theory and evidence of behavior of security returns with a view to determining rational investment policy. Inclusive instruction: Historical and current investment possibilities, portfolio evaluation and revision, capital market theory, and extensions of portfolio analysis. Prereq: 421.

430 Financial Markets (3) Role of short and long term financial markets in the process of capital formation and allocation. Theories and mathematics of interest rates in money and capital markets.

431 Financial Institutions (3) Management policies of financial institutions including asset, liability and capital management. Legal, economic and regulatory environment and their implications for management. Financial institutions' structure and competition and changing trends in the U.S. Financial System.

450 Financial Management: Theory and Practice (3) Decision making topics in financial management including valuation, capital budgeting under uncertainty; cost of capital, capital structure theory and dividend policy. Major writing requirement.

460 Advanced Topics in Financial Management (3) Contemporary issues in corporate finance, liquidity and current asset management, corporate growth and control, international financial management, and pension fund management. Prereq: 450.

470 Risk Management and Insurance (3) Identification, measurement and decision making with regard to insurance and management of the type risks facing the firm. Emphasizes handling these risks in the most cost-efficient manner.

471 Estate and Financial Planning (3) Process of estate accumulation, safekeeping, and distribution, with particular emphasis on impact of insurance and taxations.

481 Real Estate Finance and Investment Analysis (3) Principles of financing and investing in real property. Utilizes discounted cash flow models and ratio analysis. Current federal tax law applicable to real property. Limited partnerships and other joint ventures. (Same as Urban Studies 481.)

482 Urban Development and Finance (3) Economic analysis of development of urban land value and use, and discussion of current urban problems in the United States. Primary and secondary mortgage markets and economic analysis of the effects of these markets on urban development. (Same as Urban Studies 482.)

FIRST YEAR STUDIES
101 Approaches to the University (1) Integration into the academic life of the campus, including the nature and purpose of a college education, career planning, the organization of university disciplines, and assessment of special needs in areas such as time management, study skills, counseling, and financial aid. Satisfactory/No Credit grading only. Meets weekly.

410 Peer Mentoring Seminar (2) Designed to prepare the upperclass student to effectively mentor the freshman student. Includes theories of helping, the development of mentoring skills, cognitive and dispositional theories of the college-age student, and the investigation of the problems of transition. Satisfactory/No Credit grading only. Meets weekly.

FOOD TECHNOLOGY AND SCIENCE (390)
140 The Food Industry (3) Role of the food industry in providing an adequate, safe food supply for the United States and international markets. Interaction of the food industry with governmental agencies and consumers. 2 hours and 1 lab. F

269 Meat Evaluation and Grading (2) Grading standards for quality and yield; principles for evaluating beef, pork and lamb, and application of standards for institutional meat cuts. Practice grading, judging carcasses and cuts, and application of purchase specifications.

360 Meat Science (2) Carass characteristics of meat animals, muscle structure and composition, cut identification, curing, freezing and cookery.

369 Meat Science Lab (1) Slaughter and processing methods for beef, pork, lamb and poultry. Prereq: 360 or concurrent enrollment.

401 Food Technology and Science Seminar (1-2) Revisions of course materials and discussion of current topics and problems. May be repeated; maximum 3 credit hours. Prereq: Senior standing or consent of instructor. F, Sp

410 Food Chemistry I (3) Reactions of proteins, enzymes, and additives in foods. Study of physicochemical properties, sensory characteristics. Prereq: Chemistry 110 or equivalent. 2 hours and 1 lab. F

411 Food Chemistry II (3) Reactions of inorganic compounds, carbohydrates, lipids and vitamins in foods. Prereq: Chemistry 110 or equivalent. 2 hours and 1 lab. Sp

420 Food Microbiology (2) Physical, chemical and environmental factors moderating growth and survival of foodborne microorganisms; pathogenicity and spoilage microorganisms affecting quality of foods and their control. Prereq: Microbiology 210. Coreq: 429. F


430 Sensory Evaluation of Food (3) Principles and methods of sensory evaluation of foods. Prereq: Agricultural Engineering Technology 423. 2 hours and 1 lab.

440 Preservation of Food (3) Prevention of deterioration and spoilage of foods. Methods of preservation. Prereq: Agricultural Engineering Technology 423. 2 hours and 1 lab.

442 Special Topics In Food Technology and Science (1-3) Topics of current concern to the food industry. May be repeated. Maximum 9 hours. Prereq: Consent of instructor. F, S

450 Dairy Products I (3) Procurement, processing, and distribution of fluid milk. Manufacture of butter, frozen, and condensed dairy products. Prereq: 140 or consent of instructor. 2 hours and 1 lab. F

451 Dairy Products II (3) Manufacture of cheese and specialty dairy products. Market standards and grading. Prereq: Dairy products I. May be repeated; maximum 9 hours. Prereq: 140 or consent of instructor. 1 hour and 2 labs. Sp

460 Meat Products Technology (4) Processing methods for various cured, smoked and fermented products. Effect of processing methods on product characteristics. Prereq: 360 or consent of instructor. 3 hours and 1 lab. F

470 Food Crop Products (3) Food products from plants emphasizing types, manufacturing systems, quality attributes and utility. Prereq: 3 hours Biological Science. 2 hours and 1 lab. Sp, E

480 Cereal Science and Bakery Products (3) Chemistry and technology of processing cereal grains; interactions of ingredients during production and storage of baked products. Prereq: 410 or 411 or equivalent. 2 hours and 1 lab. F-O

493 Independent Study (1-12) Specialized research in any subject of interest under faculty direction. Field experience in supervised internship in the food industry. May be repeated. Maximum 12 hours. Prereq: Consent of instructor.

FORESTRY (396)
301 Forest and Wildland Resource Economics (3) Production functions, supply-demand and market analysis; non-market programs and projects; economic analysis and decision models, investment and financial analysis; managerial economics; taxes; forest products marketing. Prereq: 324 or consent of instructor.

321 Forest Recreation (3) Philosophical foundation of recreation; planning, development, and management of forest recreation resources; interpretation of forest resources. Overnight weekend field trips may be required. F

322 Applied Silviculture (3) Application of silvicultural techniques; tree improvement; use of herbicides; fire management. Prereq: Forestry, Wildlife and Fisheries 312. Coreq: 323, 324, 325, and Entomology and Plant Pathology 306. Sp


324 Forest Resource Analysis (3) Growth and yield prediction; harvest determination; goal setting under multiple use concepts; approaches to regulation; financial aspects of forestry with computer simulation. Prereq: Forestry, Wildlife and Fisheries 303. Coreq: 322, 323, 325 and Entomology and Plant Pathology 306. Sp

325 Forest Resource Inventory and Surveying (3) Volume and growth estimation; timber appraisal; surveying techniques; road layout and construction as applied to forest inventory; limbing and bucking. Prereq: Forestry, Wildlife and Fisheries 313. Coreq: 322, 323, 324 and Entomology and Plant Pathology 306. Sp

331 Wood Properties and Uses (2) Fundamental structural and use characteristics, and uses of wood. Prereq: 110 or consent of instructor. Coreq: 323 for Forestry and Wood Utilization majors. Sp

332 Wood Identification (3) Macro and micro identification techniques, and uses of wood. Prereq: 110 or consent of instructor. Coreq: 323 for Forestry and Wood Utilization majors. Sp

422 Forest and Wildland Resource Policy (3) Policy formulation and implementation, and use criteria for policy determination; forest and wildland law and regulation; theory of conflict resolution; formal and informal resolution. Prereq: Senior standing.

423 Forest Recreation Planning and Management (3) Planning processes, master and site planning, site design projects; management strategies, methods of
211 Introduction to Forestry, Wildlife and Fisheries (3) An introduction to the economic, social, and institutional aspects of their management. Coreq: 312, 313 and 315, or consent of instructor. F

416 Planning and Management of Forest, and Wildlife Fisheries Resources (3) In-depth study of the principles of management through case studies including conflict resolution. Prereq: Senior standing. 1 hour and 2 labs. Sp

FRENCH (405) 111-112 Elementary French (3,3) Introduction to French. May not be repeated for credit by students with two years of high school or one year college French. Must be taken in sequence. Language Laboratory required.

199 The French Language and World Business (1) Students will examine the importance of foreign trade at the local, state and national levels. An interdisciplinary team of faculty from the Colleges of Business and Liberal Arts will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students majoring in the program in Language and World Business. See the Director for further information.

210 Intermediate French Transition (3) A thorough study of the fundamentals of French language for those who have completed at least 2 years of high school study but whose placement test results indicate that they are not prepared for the 211-212 sequence. Special emphasis on the development of proficiency in French. The course will meet five hours per week and will not count toward the College of Liberal Arts intermediate-level foreign language requirement. For elective credit only.

211-212 Intermediate French (3,3) Sequence stresses the reading, writing, listening, and speaking of French to prepare students for upper division courses. May be taken in sequence. Language Laboratory required.

217-218 Honors: Intermediate French (3,3) For students of superior ability in French. Incoming freshmen admitted on basis of diagnostic test, high school average, and performance on ACT. Class held to a maximum of 15 for individual attention. Students follow enriched curriculum and take upper division classes including literary selections. Students with a grade of A in the course.

291-292 French Literature in English Translation (3,3) 291-From the origins through the Age of Voltaire. 292-Diderot, 19th and 20th centuries: Flaubert, Rimbaud, Sartre, Camus. May not be counted toward the major or minor. Writing- emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

300 French Transition (2) Development of linguistic skills necessary for satisfactory work in courses above 300. Recommended for students who would benefit from additional training beyond 212 in basic skills of reading, speaking and writing French. May not be counted toward the major or minor.

301-302 Elements of French for Upper Division and Graduate Students (3,3) Elements of language, elementary and advanced readings. Open to graduate students preparing for language examinations, and upper division students desiring reading knowledge of the language. Undergraduate credit only. Not for credit toward the major or minor.


313 Aspects of French Literature (3) Study of masterpieces from the great literary movements and counter-movements. Prereq: 212 or equivalent.

324 Women In French Culture (3) Role of women in French history and culture. Feminists (George Sand), royal mistresses (Mme de Maintenon), intellectuals (Mme de Stael); actresses (Sarah Bernhardt), scientists (Marie Curie). May not be counted toward the major or minor. (Same as Women's Studies 324.)

341-342 Intermediate Composition and Conversation (3,3) Grammatical analysis of modern French prose, review of grammatical principles and their application in translation from English to French, both written and oral; exercises in free composition. Prereq: 212, 218 or equivalent. Each 341 or 342 may be applied toward the major, but not both.

345 French for Business (3) Contemporary French language as it applies to business transactions. Understanding and communicating on business letters; oral communication and elements of French culture related to good business practices. Either 342 or 345, may be applied toward the major but not both. Prereq: 314 or consent of instructor.

400-401 Consecutive and Simultaneous French-English and English-French Translation (3,3) 400-Consecutive Translation to and from French. Introduction to simultaneous translation to and from English. Training of students with good knowledge of French for consecutive and simultaneous translation from French into English, and vice versa, on a variety of subjects such as business, politics, science. Prereq: 342, 345 or equivalent. Preferably taken in sequence.

410 Medieval French Literature (3) Major representative works of Medieval French Literature. Texts in modern French. Prereq: 212, 216 or equivalent. (Same as Medieval Studies 410.)

411 French Literature of the 16th Century (3) Highlights of 16th century French literature. Excerpts from Rabelais and Montaigne; readings of poems from the writers of the Pléiade. Prereq: 212, 218 or equivalent.


413 French Literature of the 18th Century (3) Major works of the Enlightenment. Prereq: 212, 218 or equivalent.


416 Survey of Francophone Literature (3) Introduction to writing in French outside of France. Prereq: 212, 218 or equivalent.

419 Readings in French Literature (3)"
361 Regional Geography of the United States and Canada (3) Physical, economic, and social distributions as they relate to distinctive character to regions of the United States and Canada. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

365 Geography of the American South (3) Geographical characterization of the United States, including physical environment and human resources. Origin and development of contemporary economic and cultural patterns of the United States. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

366 Geography of Appalachia (3) Interrelation of physical, economic, and social patterns that gave distinctive character to the region and its parts, especially in southern Appalachia. Appalachia in perspective in the current American scene. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

372 Geography of Middle America (3) Physical, cultural, economic characteristics of Mexico, Central America, and the West Indies. (Same as Latin American Studies 372.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

373 Geography of South America (3) Physical, cultural, and economic characteristics of the countries of South America. (Same as Latin American Studies 373.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

375 Geography of the Soviet Union (3) Geographic appraisal of the Soviet Union, including physical environment, economic patterns, and human resources. (Same as Russian and East European Studies 375) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

379 Geography of Africa (3) Physical, cultural, and economic characteristics of Africa, with particular emphasis on the area to the south of the Sahara. (Same as Afro-American Studies 379.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

411 Computer Mapping and Geographic Information Systems (3) Concepts, management, and presentation of data, and spatial analysis with emphasis on cartographic data structures. 2 hours' lecture and 2 hours' lab per week. Prerequisite: 310 and knowledge of a computer language or consent of instructor.

412 Cartography (3) Cartographic techniques applied to the design, compilation, and reproduction of maps and other graphics. 2 hours' lecture and 2 hours' lab per week. Prerequisite: 310 or consent of instructor.

413 Remote Sensing: Types and Applications (3) Principles and uses of remote sensing imagery, digital data, and spectral data, with particular emphasis on geographic interpretation and mapping techniques. Prerequisite: 310 or consent of instructor.

415 Quantitative Methods in Geography (3) Geographic application of statistical techniques, point pattern analysis, and analysis of areal units. Prerequisite: Mathematics 119 or 2 semesters of calculus or consent of instructor.

419 Practicum in Cartography/Remote Sensing (2-6) Supervised practice in design and production of maps and other graphics. May be repeated for credit. Prerequisite: written consent of department or prior to registration.

421 Geography of Folk Societies (3) Geographical characterization of folk culture, including traditional material culture and rural settlement, with examples drawn from eastern North America and selected foreign areas. Prerequisite: 101-102 or 320 or consent of instructor.

425 Historical Geography of the United States (3) Survey of the changing human landscape in the United States during four centuries of settlement and development. Emphasis on changing population patterns, development of agricultural regions, and patterns of urban-industrial development. Prerequisite: 361 or consent of instructor. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

433 The Land-Surface System (3) Characteristics of surface form, water, vegetation, and surface materials, and their regional interrelationships. People as evaluators of processes of change. Prerequisite: 131-132 or consent of instructor.

434 Climatology (3) General circulation system leading to world pattern of climates. Climatic change and modifications of the earth's surface, including human activity. Prerequisite: 131-132 or 334 or consent of instructor.

435 Biogeography (3) Study of the changing distribution patterns of plants and animals on a variety of spatial and temporal scales. The effects of continental drift, Pleistocene climatic change, and human activity on world biota are emphasized. Prerequisite: 131-132 or 330 or consent of instructor.

436 Water Resources (3) Global water resources and hydrologic processes, including water availability, flooding, and water quality issues examined from physical and economic geographic perspectives. Prerequisite: 131-132 or 330 or consent of instructor.

441 Urban Geography (3) Concepts and theories concerning development and significance of systems of cities and internal morphologies of cities. Prerequisite: 101-102 or 141 or 340 or consent of instructor. (Same as Urban Studies 441.)

443 Rural Geography (3) Geographical appraisal of rural areas of the United States, including small towns and rural fringes. Prerequisite: 131-132 or 330 or consent of instructor.

445 Geography of Resources (3) Factors related to variation in resource availability from time to time and place to place, with particular emphasis upon energy and metallic resources. Prerequisite: 101-102 or 141 or 340 or consent of instructor.

449 Geography of Transportation (3) Examination of transportation systems, emphasizing their effects on trade patterns, land use, location problems, and development. Prerequisite: 141 or 340 or consent of instructor.

450 Process Geomorphology (3) (Same as Geology 450.)

491 Foreign Study (1-15) Prerequisite: Written consent of department required prior to registration.

492 Off-Campus Study (1-15) Prerequisite: Written consent of department required prior to registration.

493 Independent Study (1-15) Prerequisite: Written consent of department required prior to registration.

499 Proseminar in Geography (3) Major themes in geography, especially trends over the past 40 years. Required for majors. Not open to graduate students. Prerequisite: Senior standing and completion of at least 12 hours of major or minor requirements in geography. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

GEOLOGY (424)

100 The World's Oceans (3) Geological, physical, and biological aspects of oceans and human interactions with the marine environment. 3 lecture hours per week.

101-102 General Geology I, II (4.4) Physical processes as they are reflected upon the geological record, including the formation of rocks, plate tectonics and earthquakes, and landforms. 102-Fossilis, evolution and ancient environments. Prerequisite: 101-102. May not be taken for credit by students who have completed 330 or 331.


323 Behavioral Geography (3) Types of human behavior, such as shopping, territoriality, commuting, residential mobility, and regional consciousness as they relate to distance, natural environment, and culture. (Same as Urban Studies 323.)

334 Meteorology (3) Dynamic atmosphere and resulting weather events. Nature of individual weather elements, their measurement and analysis over time and space.

203 Geology of National Parks (3) Geologically spec-
tacular landscapes and geologic history of national
parks of the world. Human attempts to preserve the
Earth's surface in the face of human activity during the
term. May not be applied toward the Geology major.

210 Basic Geology for Engineers (2) Materials and
structures of the Earth. Taught by the College of Engineering
students only. 2 lecture hours and one 2-hour lab or field
period.

210 Basic Geology for Engineers (2) Materials and
structures of the Earth. Taught by the College of Engineering
students only. 2 lecture hours and one 2-hour lab or field
period.

210 Basic Geology for Engineers (2) Materials and
structures of the Earth. Taught by the College of Engineering
students only. 2 lecture hours and one 2-hour lab or field
period.

210 Basic Geology for Engineers (2) Materials and
structures of the Earth. Taught by the College of Engineering
students only. 2 lecture hours and one 2-hour lab or field
period.

210 Basic Geology for Engineers (2) Materials and
structures of the Earth. Taught by the College of Engineering
students only. 2 lecture hours and one 2-hour lab or field
period.

210 Basic Geology for Engineers (2) Materials and
structures of the Earth. Taught by the College of Engineering
students only. 2 lecture hours and one 2-hour lab or field
period.

310 Mineralogy (4) Introduction of crystallography,
crystal chemistry, mineralogy, and economic geology. Prereq:
Chem 120-130 or equivalent. 3 hours lecture and 1 lab.

320 Paleobiology (3) Fossils and their uses in func-
tional morphology, paleoecology, biogeography, bio-
sтратigraphy, and evolution. Prereq: 102 or consent of
instructor. 2 lecture hours and one 2-hour lab or field
period.

325 Geological History of Land Organisms (3) Origin
and development of terrestrial organisms in space and
time with emphasis on the fossil and present record of
land plants and vertebrates. Prereq: Elementary biology
sequence or consent of instructor. 2 lecture hours and one
2-hour lab or field period.

330 Igneous and Metamorphic Petrology (3) Classi-
fication and properties of igneous and metamorphic
rocks and the processes that produce them, and the
geologic environments in which they form. Prereq: 310, 2 lecture
hours and one 2-hour lab.

340 Stratigraphy and Sedimentation (3) Stratigraphic
principles and techniques. Physical and chemical processes
and interpretation of depositional environments. Prereq: 101, 102 and 310. 2 lecture hours and one 2-
hour lab or field work.

345 Geology of East Tennessee (1) Geology of the
Southern Appalachian in Tennessee. Prereq: Completion
of major core courses or consent of instructor. 1 hour lecture plus fieldtrips.

346 Introduction to Oceanography (4) Physical, chemi-
cal, biological, and geological processes of the oceans,
including tides, waves, ocean circulation, ocean basin
processes, classification of mineral deposits, survey of
the Earth's crust. Prereq: Chemistry 120-130; recommended:
Chem 120-130, 121-131, 122-132, 145-146, and 147-148 and Physics 131. 3 lecture hours.

363 Modern German Culture (3) German culture from
the earliest days to the present. Writing emphasis
course: at least one in-class essay examination and
3000 words of writing outside class.

365 Basic Environmental Geology (3) Applications of
environmental geology to a variety of non-majors and non-literary fields. Students or student groups are en-
couraged to suggest topics for future courses. May be
repeated twice with approval of department. Prereq: 202 or
equivalent.

370 Structural Geology (4) Common geologic struc-
tures (folds, faults, cleavage) and their genesis. Labora-
tory includes map interpretation, cross-sections, projec-
tions, stromatolites. Prereq: 101-102, Mathematics 141-
142, or equivalent. 3 lecture hours and 2-hour lab.

380 Resources Crises - Minerals and Energy (3) World
and United States resources of minerals and energy,
prices and production trends, future supply of minerals and energy, national mineral and energy pol-
ics. Emphasis on appraisal of conventional and alter-
estable energies. 3 lecture hours.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.

410 Advanced Mineralogy (3) Crystal chemistry of the
rock-forming minerals. Interaction of electromagnetic
radiation and crystalline solids. Optical properties of
minerals, visible and infrared spectroscopy, and x-ray
diffraction. Laboratory exercises emphasize thin-section
and x-ray diffractometer methods of mineralogy. Prereq:
310. 2 lecture hours, one 2-hour lab.
424 German Literary Movements (3) Major periods in the development of German literature since 1750, with emphasis on the problems and pitfalls of periodization.

425 Introduction to Descriptive Linguistics (3) (Same as Russian 425, French 425, Spanish 425, and Linguistics 425.)

426 Methods of Historical Linguistics (3) Phonetics, distinctive feature analysis, sound change types, nature of sound change, principles of reconstruction and fundamental assumptions about language change through time. Phonological and morphological change, language families, Proto-Indo-European and other proto languages. Prereq: 6 hours of upper division foreign language courses excluding courses in translation or graduate reading courses. (Same as Russian 426, French 426, Spanish 426, and Linguistics 426.)

427 Structure of the German Language (3) Contrastive English-German segmental and suprasegmental phonemes, contrastive English-German linguistic structures, selected topics in advanced German grammar and syntactic analysis. Prereq: 6 hours of upper-division German language courses excluding courses in translation and graduate reading courses. (Same as Linguistics 425.)

436 History of the German Language (3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German, and Early Modern German to the present time. (Same as Linguistics 436.)

485 Business German (3) German used in fields of business, government, administration and economics. Prereq: 6 hours of upper division German excluding courses in translation and graduate courses.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

497 Senior Honors (1-6) Admission by consent of department. May be repeated. Maximum six hours.

GREEK

121-122 Beginning Greek (3,3) Must be taken in sequence.

261 Intermediate Greek: Grammar Review and Readings (3) Systematic review of Attic Greek and readings from selected authors. Prereq: 121.

262 Intermediate Greek: New Testament and Early Christian Literature (3,3) For advanced students in Greek, the study of plays, the historical writings, the poetry of ancient Greece in the original Greek. May be repeated for credit. Maximum 9 hours. Prereq: 401-402 or consent of instructor.

HEALTH (449)

110 Personal Health and Wellness (3) Information and behavior necessary to approach health and wellness scientifically and to develop confidence in judgments affecting personal health and wellness. E

200 Seminar in Human Sexuality (2) Problems and responsibilities of being male and female as they relate to health and wellness. Satisfactory/No Credit only. F, Sp

225 Alcohol/Drugs and the College Student (2) Problems related to use and abuse of substances potentially harmful to health and wellness. Covers alcohol, drugs, tobacco, and other substances. Satisfactory/No Credit only. F, Sp

230 Cardiopulmonary Resuscitation (2) Theory and skills to implement basic cardiopulmonary support following cardiac arrest due to such conditions as heart attack, drowning, electrocution, suffocation, poisoning, drug intoxication, and vehicular and other accidents. Educational and preventive aspects of controlling cardiovascular disease. Leads to basic life support certification. F, Sp

300 Health Education, Promotion, and Behavior (3) Health education: goals, roles, target populations, on and off campus, community and health care settings; health careers and opportunities; health behavior and intervention techniques; health promotion strategies. F, Sp

305 The School in Community Health (2) Roles and responsibilities of teachers in school health programs with emphasis upon: health problems of the school child, recognition and methods of handling them; healthful school environment; school health services; and community resources, health personnel, voluntary and official health agencies. May not be taken for credit by health majors. F, Sp

306 Health Instruction in Elementary Grades (2) Topics appropriate for school-aged children in elementary grades. Organization and presentation of health content emphasized. Teachers become familiar with health materials, curricula, literature, community resources and planned programs for teaching health. Prereq: 305 and admission to Teacher Education Program. F, Sp

310 Advanced First Aid and Emergency Care (3) Theory and practice of first aid and emergency care. Prereq: 305 or consent of instructor. 305 enables first aid capabilities of lay persons. Course leads to Advanced First Aid and Emergency Care certification. Applicant must be at least 15 years old for certification. E

325 Planning, Evaluation and Administration of Health Programs (3) Organization of health programs in school, community and health care settings at public and private levels. Plan and assess various health education and health promotion efforts. F

330 Wellness Through Health, Leisure and Physical Activity (3) Emphasis on taking personal responsibility for one's health. Includes topics related to the healthful lifestyle, and provides specific guidelines of how to change inappropriate behaviors. (Same as Physical Education 330.)

357 Health Education: Curriculum, Methodology, Communications (3) Principles of health education curriculum construction, methodology and communication strategies for teaching/transmitting health education information. Sp

380 Research and Grant Writing (2) Study and application of research methods and grant writing techniques for health education programs. Skills for reading and interpreting journal and research articles. Exercises and student projects to develop a research or grant proposal. Emphasis on development and review processes. Sp

400 Consumer Health (3) Major consumer health care providers and organizations, purchasing, evaluating and financing medical and health care services/products. (Same as Public Health 400.) E

405 Alcoholism and Alcohol Education (3) Factors which make alcoholism a serious health and safety problem. Various types of instructional/educational and intervention programs. F, Sp

406 Death, Dying and Bereavement (3) Aspects of dying, death and handling the trauma of loss. Medical, financial, physical, legal and social implications of death. F, Sp

410 Pre-Internship Seminar (1) Objectives and policies of the internship program. Must be completed the term immediately preceding the internship. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. Sp, Su

414 Physical Activity and Fitness (2) (Same as Physical Education 414)

415 Field Evaluation of Physical Fitness (1) (Same as Physical Education 415.)

420 Sex Education As It Relates to Human Sexuality (3) Science of human sexuality. Emphasis on the trends, issues, concerns, and future of sexuality in health education. F

425 Women's Health (3) Factors influencing women's health and women as consumers in nation's health service delivery systems. Study of health problems/interests of women and techniques for prevention, maintenance and/or correction. (Same as Women's Studies 425.) E

430 Suicide and Crisis Intervention (3) Factors which make suicide a serious health problem. Assessment, intervention, and prevention techniques. F

435 Substance Use and Abuse (3) Drug and alcohol abuse problems and suspected causes, pharmacology of drugs and effects on society; strategies for intervention and education. Sp

465 Aging and Health (3) Aging process in a health perspective as it relates to health promotion and wellness of the aged. F, Sp

470 Special Topics (1-3) For advanced students, teachers, school administrators, nurses and other para-medical personnel. Lectures, demonstrations, films, field trips, and supervised research in special health/wellness or health promotion issues. May be repeated. Maximum 12 hours. E

475 Directed Independent Studies (1-3) Individual identification and study of a health/wellness or health promotion problem/issue. Prereq: Consent of instructor. May be repeated. Maximum 12 hours. E

481 Internship I: Grades 7-12 (3-6) Methods and theories of teaching, internship is completed in local public schools. Application for internship should be made upon admission to Teacher Education Program. Prereq: 410 and admission to Teacher Education Program. Satisfactory/No Credit only.

482 Internship II: Grades 7-12 (3-6) Demonstration of professional competence in planning, instruction, and classroom management, and the development of self as a unique public school. Prereq: 481 and admission to Teacher Education Program. Satisfactory/No Credit only. Sp

483 Field Practice (10) Off-campus internship or field practice in an educational or other agency with qualified professional. Prereq: Consent of instructor. Satisfactory/No Credit only. E

HISTORY (462)

151-152 Development of Western Civilization (3,3) Historical survey of the civilization of the western world. 151=Antique world to 1715. 152=1715 to present. F, Sp

157-158 Honors: Development of Western Civilization (3,3) Consent of department required. 157-F; 158-Sp Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

157-158 Honors: Development of Western Civilization (3,3) Consent of department required. 157-F; 158-Sp Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

161-162 A History of World Civilization (3,3) Historical survey of world civilization. 161-Origin to 1500. 162-1500 to present. 161-F; 162-Sp Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

195-196 Afro-American History: An Introduction (3,3) African-American experience to 1890. Traditional African societies from which Afro-Americans emerged; evolution of prejudice and racism in America; institution of slavery; free Negroes; Civil War and Reconstruction. 196-Afro-American experience from 1890. The Afro-American struggle for political, civil, and social equality; leaders of the struggle, their philosophies and programs; responses of Black community institutions to the challenges of the 20th century; the rise of the urban ghetto; the Civil Rights and Black Power movements.

202 The City in Europe, 1000-1900 (3) Urban growth, emphasizing the growth and development of the cities, their political and cultural development and their physical structure.

251-252 History of the United States (3,3) 251-Settlement to 1877. 252-1877 to present. E

253-254 United States History for International Students (3,3) 253-Settlement to 1889. 254-1889 to present. E, Sp

257-258 Honors: History of the United States (3,3) Prereq: Consent of department. 257-F; 258-Sp

307 Honors: Introduction (3) Historical analysis and interpretation, philosophical principles and techniques of research. Required of students working for honors in history. Prereq: Consent of department.
308 Honors: Historical Problems (3) Application of techniques and insights from 307 to selected historical issues to emphasize problems of evidence, interpretation, and historiography. Prereq: Consent of department.

310-311 The Ancient World (3, 3) Development of Athenian democracy; its successes and failures; polis crisis of the fourth century B.C.; emergence of Hellenistic civilization. 311 Study of Roman imperial history and its consequences: militarism, empire, socioeconomic changes, constitutional crises, emergence of military and social class conflict.

312-313 Medieval History (3) Medieval Europe: 312 Early Medieval Ages; 313 Later Middle Ages. Formation of medieval society and institutions. 313 Later Middle Ages 1100-1400. Height of medieval civilization and its waning in the fourteenth century. (Same as Medieval Studies 312 313.)

314 Renaissance Europe (3) The period traditionally seen as the transition from the Middle Ages to the modern world. Interrelationship of cultural, social, economic, political, and intellectual developments, with an emphasis upon historical interpretation.

315 Reformation Europe, 1500-1650 (3) The period during which Europe witnessed religious diversity, economic dislocation and insecurity, political centralization, intellectual skepticism, the origins of modern science, war and the witch craze. (Same as Religious Studies 315.)

316 Early Modern Europe, 1650-1800 (3) Dynamic conflict of a search for order in an age of revolutions, seen in the continued push for political centralization, the second wave of the French Revolution, the intellectual flowering known as the "Enlightenment," and the English and French revolutions.

319 Modern Europe, 1750-1914 (3) Political, industrial and social changes against traditions. Topics such as the modern population explosion, urbanization, the political emergence of the middle class and the modern welfare state, liberalism and nationalism in social thought and politics. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

320 Contemporary Europe, 1900-Present (3) The transformation from industrial to post-industrial society and the transformation of the European nation-state. Topics such as war and depression and the consequent political and social instability, totalitarianism, control, despoliation; the impact of Freud, Einstein and existentialism; welfare states; and the problems of European unification. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

321 New Testament Origins (3) (Same as Religious Studies 321.)

322 Christian Thought (3) (Same as Religious Studies 322.)

330-331 History of England (3, 3) 330-to 1688: 331-1689 to the present. Medieval state, church, and society; origins of Anglo-American law, the monarchy and parliament, government, the Reformation, 17th Century revolutions, commercial, agricultural and industrial revolutions; class conflict, empire, the welfare state, world wars, economic crisis.

332-333 History of France (3, 3) 332-The emergence of modern France from the Renaissance to 1793. 333-France since the Revolution, 1789 to present.

334-335 History of Germany (3, 3) 334-Germany I, to 1815. 335-Germany II, 1815 to 1918. The development of the German lands, from the medieval empire to its disintegration, through dynastic and religious reagreements, to the Austrian-Prussian dualism in the time of Frederick the Great and Maria Theresa, culminating with the end of the older order in the Age of Napoleon. 335-Germany II. Since 1860. The Quest for Nationality. The evolution of modern Germany through revolution, industrialization and wars, from Metternich's Confederate league to Bismarck's Second Reich to the formation of the modern nation of two states.

336 A History of Austria and Central Europe: Frontier and Civilization Center (3) Austria's development, as part of the Hapsburg collection of states, and its search for identity as it underwent drastic changes, from a multi-national empire to an unstable truncated republic, to an exploited Third Reich province, to a four-fold Allied occupation zone, to—finally—an independent neutral nation at the crossroads of Europe. Major themes include the impact of the politics, relationships with neighboring peoples, cultural achievements, economic integration and disintegration, and the problems of centralization versus national diversity.

340-341 History of Russia (3, 3) 340-To the middle of the 19th century. 341-From the middle of the 19th century. (Same as Russian and East European Studies 340-341.)

350-351 Early Modern America 1607-1815 (3, 3) A thematic approach to early American history in the formative years; 350-to 1776; 351-1776 to 1815.

352 The United States during the Jacksonian Era, 1815-1860 (3) An examination of the major economic and political developments in antebellum America within the framework of the struggle between sectionalism and nationalism.

353 The Civil War and Reconstruction Eras, 1860-1877 (3) An examination of the major political, economic, and social developments in the United States during the Civil War and Reconstruction era.

354 United States, 1877-1933 (3) America's political, economic, and social development from the Gilded Age through the Great Depression.

355 United States, 1933 to the present (3) American experience from Roosevelt's New Deal through World War II and the emergence of the modern era. (Same as American Studies 351-355.)

360-361 History of Latin America (3, 3) 360-Colonialism and Independence, 1500-1825. 361 National Development, 1825 to present. (Same as Latin American Studies 360-361.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

362-363 History of East Asia (3, 3) 362-East Asia: History and Culture of China and Japan; Korea and Vietnam also included. 363-East Asia since 1600. China, Japan, Korea and Vietnam: Comparative modernization; Western impact, cultural transformation, communal movement, and Japan's militarism and post-war economic success. Writing-emphasis course: at least one in-class essay examination of 3000 words of writing outside the classroom.

364 History of China (3) Changes and continuities of the world's longest uninterrupted civilization with a quarter of the human population. Similarities and differences between China and Western civilizations; Chinese revolutions in historical context.

365 History of Japan (3) Japanese history from mythological origins to the postwar age, with emphasis on the Meiji Restoration and Japanese militarism.


367-368 History of the Middle East (3, 3) 367-Rise and spread of Islamic civilization to the sixteenth century. 368-The Middle East from the sixteenth century to the present. Impact of the West and background of current political problems. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

371-372 African History (3, 3) 371-Nations of the southern and western regions of sub-Saharan Africa and the conflict and change occurring there from 1000 A.D. through the World War I era in 1919. 372-Dynamics of African independence since 1919. Achievement of independence by west African nations and the failure of Africans in the south to achieve that goal. Issues of urbanization, industrialization, and formation of a national identity within the twentieth-century African context. (Same as Afro-American Studies 371-372.)

373 Historical Issues (3) Broad, thematic issues in historical perspective. Lecture-discussion. Especially suitable for non-majors; also open to majors.

374 The West and the Third World Since 1870 (3) Relationships between the West and Africa, Asia, and Latin America since 1870 across a broad spectrum of critical issues. The impact of globalization and late underdevelopment. Ideologies in conflict with non-Western world views, and the search for individual identity in circumstances of cultural disruption. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

375 Revolutions in Historical Perspective (3) Comparative history of major revolutions which transformed political, social, and cultural patterns of life. Major uprisings, such as those in France, Russia, China, Mexico, and Iran. Contrasts and common patterns in their causes, phases and outcomes, and the shaping of leaders and masses. Major theories of revolution. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

376 History Behind the News (3) Contemporary analytical and historical background of selected newsworthy phenomena in North and South America, Europe, and the non-Western world. May satisfy history major requirements except those of geographical distribution. May be repeated by non-majors. Maximum 6 hours.

379 American Issues: Individualism and Community (3) Ways in which Americans have organized their life and their ideas to reflect, and to reinforce, a small group identity while seeking to achieve the purposes they have from larger group perspectives. Topics include conflicting and competitive tendencies toward laissez-faire and "Americanism" and ethnic identity. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

380 American Issues: War and the Peaceful Ideal (3) Evolution of the dual tendency among Americans to express abhorrence to war and imperial conquests and, at the same time, to engage in war and exercise economic or political dominance over other peoples. Topics include relationship between leaders and followers, patterns and dissension, mobilization for war, and post-war attitudes. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

407-408 Honors: Senior Paper (3, 3) 407-Supervised reading, bibliographic research, conceptual clarification, research. 408-Organization and writing of the senior honors paper. Both are required of students working for honors in history.

421 Comparative Studies in Africa and Afro-American Societies (3) (Same as Afro-American Studies 421.)

430-431 European Intellectual and Cultural History (3, 3) 430-Renaissance to Revolution, 1300-1789. 431-Romanticism to Relativism, 1750-Present.

432 Women in European History (3) Comparative analysis of the roles of women in Medieval, Renaissance, Victorian, and Victorian-type societies. Family, social structure, sexual and economic and political roles of women with an emphasis on autobiographical writings by women. (Same as Women's Studies 432.)

433 War and Society in Europe from Medieval to Modern Times (3) Relationship between the nature of war and society, especially those in Europe, in early modern and modern warfare, culminating in the World Wars of the 20th Century.

440 America: Mind, Mood and Society (3) Social and cultural history and thought from mythology behind colonization to major beliefs and values which form the foundation-present-day life in the United States. (Same as American Studies 440.)

441-442 The American Frontier and Westward Movement, From the Atlantic to the Trans-Mississippi (3, 3) Settlement and development of the "West" throughout American history.

443 Indian-White Relations in United States History (3) Disharmony, relationships, and conflict. Writing-emphasis course: at least one in-class essay examination and formulation of official Indian policy; underwriting of policy by frontier circumstance; Indian wars and compulsions; government response to new world and old world involvements.

444-445 History of the South (3, 3) 443-Old South from colonial period through the Civil War. 444-New South from Reconstruction through the Second Reconstruction.
481 Studies in History (3) Variable content. Subject matter not covered in other courses. May be repeated. Maximum 9 hours.

482 Colloquium in History (3) Historical theme or problem; emphasis on questions and skills, with special reference to historical writing, including critical analysis of both primary and secondary sources. Recommended for seniors. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

HOME ECONOMICS EDUCATION (490)

210 Field Experience in Teaching Home Economics Education (1-3) May be repeated. Maximum 3 hours. Satisfactory/No Credit only. F, Sp

220 Introduction to Home Economics Educational Programs (3) School-based and community-based home economics programs. Field experience included. Sp

320 Strategies of Teaching Home Economics (3) Teaching methods, techniques, use of media. Field experience included. Sp

420 Curriculum Development in Vocational Home Economics (3) Program planning, evaluation, design of instruction for classroom. Prereq: 320. Admission to Teacher Education Program. To be scheduled immediately preceding student teaching. Includes laboratory. Sp

421 Teaching Occupational Home Economics (1 Methods; organization, curriculum for Home Economics Related Occupational programs. Prereq: or Coreq: 420. Sp

430 Student Teaching in Vocational Home Economies (6-15) Prereq: 420. Satisfactory/No Credit only. F

440 Teaching in Community-Based Programs (3) Planning and implementing non-formal instructional programs; methods, curriculum, delivery systems, evaluation. Includes field experience. Prereq: Senior standing. (Same as CFS 440.) Sp

445 Field Experience in Community-Based Programs (1-15) Placement in Home Economics-related programs or businesses. Includes seminar. May be repeated. Maximum 15 hours. Prereq: Consent of instructor. Satisfactory/No Credit only. F, Sp, Su

497 Honors: Home Economics Education (3-6) Issues or topics affecting home economics education; design to meet individual needs; methods and techniques for outstanding service. Prereq: Junior or Senior standing and consent of instructor. May be repeated. Maximum 6 hours. F, Sp, Su

HOTEL AND RESTAURANT ADMINISTRATION (551)

120 Introduction to Hotel and Restaurant Administration (2) History and place of industry in national economy; basic operating systems, organization structure; problems in the hospitality complex. F

126 Front Office Management (3) Front office procedures within context of overall operation of the hotel/motel; includes reservation systems, equipment, accounting procedures, settlement procedures, public relations, and management. F, Sp

220 Foodservice Systems Administration (3) Management concepts, processes, resources in foodservice systems; decision-making and problem solving principles. F, Sp

320 Quantity Food Procurement, Production and Service (3) Principles of quantity food procurement, storing, producing and serving foods in volume. Prereq: Sec 220; NFS 100 or 107, 101 or 311. Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 321 or 322. F, Sp

321 Quantity Food Procurement, Production and Service Laboratory (1) Application of principles in determining needs, procuring, storing, producing and serving foods in volume. Prereq: Sec 220; NFS 100 or 107, 101 or 311. Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 320. F, Sp

322 Quantity Food Procurement, Production and Service (3) Application of principles in determining needs, procuring, storing, producing and serving foods in volume as they apply in the hotel/motel industry. Prereq: Sec 220; NFS 100 or 107, 101 or 311. Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 320. F, Sp

324 Tourism and Travel Administration (3) Economic and social forces influencing domestic and international tourism; tourism policies, functions of the industry. Prereq: 120; progression into HRA program or consent of the instructor. F, Sp

326 Food and Lodging Cost Control (3) Cost analysis, computer, financial statement use in decision making in lodging and foodservice systems. Prereq: 320, 321 or 322; Accounting 202 or consent of instructor. F, Sp

420 Field Experience in Hotel and Restaurant Administration (8) Supervision of educational experiences in selected tourism, food and lodging operations followed by a two-day seminar. Offered only in summer semester. Students must be in their final semester and meet other requirements as set by the instructor. May be repeated. Maximum 9 hours.

422 Food and Lodging Personnel Development (3) Training programs; personnel management procedures and techniques involving human resources; effects of organizational structure on food and lodging systems. Prereq: 320, 321 or 322; Accounting 202; Economics 201; Marketing 301; Business Law 301; 100 hours of verifiable work experience. Satisfactory/No Credit only. Su

423 Hospitality Sales and Marketing (3) Strategic marketing for lodging and restaurant organizations; includes property/product, market, and competition analyses; promotion and sales planning, internal and external sales and promotion techniques. Prereq: Marketing 301; progression into HRA program or consent of the instructor. F, Sp

424 Advanced Hotel and Restaurant Administration (3) Integration of functional areas. Management level administrative processes and decision making concerning hotel and restaurant business policy, strategy formulation, implementation, and evaluation. Prereq: 320, 321 or 322; Accounting 202; Economics 201; Marketing 301; Business Law 301; 100 hours of verifiable work experience. F, Sp

425 Hospitality Law (3) Legal issues and responsibilities for staff managing and working in the hospitality industry. Prereq: Senior standing in the HRA program or consent of the instructor. F, Sp

426 Convention Management (3) Scope and segmentation of convention management including requirements meeting individual needs; methods and techniques for outstanding service. Prereq: 423, Marketing 301; 100 hours of verifiable work experience. F, Sp

440 Special Topics: Hotel and Restaurant Administration (1-3) Developments, issues and problems in Hotel and Restaurant Administration; topics variable. Prereq: Junior or Senior standing in the HRA program or consent of the instructor. May be repeated. Maximum 3 credits. E

494 Directed Study: Hotel and Restaurant Administration (1-3) Individual student: faculty experience. Prereq: Junior and Senior Standing, consent of the instructor. Satisfactory/No Credit only. E

497 Honors: Hotel and Restaurant Administration (1-3) Senior project. Prereq: Senior standing, consent of the instructor.

HUMAN ECOLOGY (520)

100 Special Topics in Human Ecology (1-3) Topics variable. Prereq: Consent of the instructor. Satisfactory/No Credit only. May be repeated. Maximum 3 credits of verification.

200 Professional Orientation (3) Presentation of ecosystem model and its application to the enhancement of individual and family well-being; examination of the behavioral nature of human beings; relationship between people and their environments. F, Sp
INTERIOR DESIGN (582)

140 Introduction to Interior Design (3) Orientation to the profession; relationship to allied fields; contemporary developments; philosophical approaches. Open only to majors in interior design and architecture. F

150 Visual Studies (3) Classification and properties of two- and three-dimensional visual elements; design and perception; principles; visual and spatial elements within simple and complex visual systems; role of movement in experiencing scale and volumetric space. Open only to majors in interior design and architecture. F

200 Human-Environment Systems (3) Role of culture in defining environment; physical, social and conceptual aspects of human-environment systems; impact of environment on human behavior, feelings and values; mutual-casual properties of behavior-environment systems. (Same as Urban Studies 200.) F

210 Microcomputer Applications (3) Introduction to receiving service. Prereq: Progression to the major. F, Sp

220 Introduction to Human Services (3) Focus on related social values and contemporary issues in human services. Emphasis on the various professions, settings, and roles as students examine the complexities of human needs and social problems. F

320 Peoples and Problems of Appalachia (3) Exploration of a region and its inhabitants from contemporary human services' point of view. Special emphasis placed on political and economic structures of region. F

330 Thinking About People (3) Development of thoughtful, informed and empathic attitudes toward human beings—those providing services as well as those receiving service. Prereq: Progression to the major. F

380 Human Services Methodologies I (3) Basic helping service to the effective delivery of Human Services. Prereq: Progression to the major or consent of instructor. F

390 Information Interpretation and Assessment (3) Information gathering and assessment for human services is presented in depth in relation to human services practice. Formulating questions, identifying relevant data, using related resources, interpreting information and applying this information in a practical setting. Prereq: Progression to the major. Sp

420 Human Services Methodologies II (3) Includes reality therapy, behavior modification, family systems, client-centered therapy, brief therapy, directive therapy, and role playing related methods and skills that will be used during the field experience. Prereq: Progression to the major. Sp

430 Working Within The System (3) Casework Experiences. Contact within which the need for human services arises and analysis of the process through which such needs are met. Prereq: Progression to the major; 330, senior standing or consent of instructor. Sp

625 Working Within The System (3) Casework Experiences. Contact within which the need for human services arises and analysis of the process through which such needs are met. Prereq: Progression to the major; 330, senior standing or consent of instructor. Sp

470 History of Contemporary Interior Architecture (3) A study of the visual environment. Prereq: Third year in Interior Design. F

475 History of American Interior Architecture (3) Historical developments in interior architecture and decorative arts within cultural context, colonial era through nineteenth century. Prereq: 370 or consent of instructor. F

485 Interior Design Synthesis (4-8) Student and instructor initiated advanced research topics must be approved by supervising Interior Design faculty. Prereq: 450 or consent of instructor. Sp

591 International Study (1-15) Individual or group study; field work in foreign countries in association with language laboratory. Prereq: 200, 350 and fifth year in Interior Design. F

ITALIAN (584)

111-112 Elementary Italian (3,3) Introduction to Italian. May not be taken for credit by students with two years of high school or one year college Italian. Must be taken in sequence. Language laboratory required. F

211-212 Intermediate Italian (3,3) Sequence stresses reading, writing, listening and speaking Italian to prepare for upper division courses in the language. Must be taken in sequence. Language laboratory required. F

311-312 History of Italian Literature (3,3) Chronological view of Italian literature in relation to the specific historical developments that have influenced it. Prereq: 212 or equivalent.

341-342 Intermediate Grammar, Composition and Conversation (3,3) Grammatical analysis of Italian prose; review of grammatical principles and their application in translation from English to Italian; both written and oral; exercises in free composition. Prereq: 212 or equivalent.

401 Dante and Medieval Culture (3) Introduction to the significance of this great Italian writer. Prereq: 212 or consent of instructor. (Same as Medieval Studies 401.) F

402 Petrarch and Boccaccio (3) Prereq: 212 or consent of instructor. (Same as Medieval Studies 402.) F

430 Computer-Aided Design (3) Interaction between computers, computers-aided design and related software; design methodology; commercial and institutional environments, and historical preservation/adaptive reuse of older structures with considerations of governmental policies. Prereq: 350 for 440; 440 for 450 and fifth year in Interior Design. F

460 Lighting for Interior Designers (3) Application of elements and principles of lighting and wiring to design of visual environment. Prereq: Third year in Interior Design. Sp

470 History of Contemporary Interior Architecture (3) Interior architecture, furniture, design philosophies, nineteenth century roots of twentieth century development, Europe and America; design as influenced by movements in fine arts, technological advances, cultural context. Prereq: 370 or consent of instructor. F

485 Interior Design Synthesis (4-8) Student and instructor initiated advanced research topics must be approved by supervising Interior Design faculty. Prereq: 450 or consent of instructor. Sp

491 International Study (1-15) Individual or group study; field work in foreign countries in association with language laboratory. Prereq: 200, 350 and fifth year in Interior Design. F

493 Independent Study (1-15) Student and/or faculty initiated research or studio investigation of special topic. Elective credit only. May be repeated. Maximum 15 hours. Prereq: Consent of instructor. F

495 Practicum for Interior Design (15) Supervised experience in a professional design firm; business practices, project management and design philosophy. Prereq: Third year in Interior Design, 360 and consent of instructor. Sp

496 Directed Study: Human Ecology (1-3) Topic arranged by individual student under supervision of faculty. May be repeated with different topic. Maximum 6 hours. Prereq: Junior or Senior standing in a major in the College of Human Ecology and consent of instructor. F

520 Micro-Computers for Interior Design (3) Electronic spreadsheets and data-base organization and software, cost estimating, construction drawings related to space planning. Prereq: 280, 340; Interior Design majors only. F

530 Special Topics in Human Services (3) Issues, principles, project management and design philosophy. Prereq: Third year in Interior Design, 360 and consent of instructor. Sp

540-550 Advanced Interior Design I, II (4,4) Complex problems in interior design, including design methodology; commercial and institutional environments, and historical preservation/adaptive reuse of older structures with considerations of governmental policies. Prereq: 350 for 440; 440 for 450 and fifth year in Interior Design. F
JOURNALISM (594)

201 Publicity and Public Relations (3) Principles and practice of writing for mass media. Public information campaigns for organizations and institutions. Not available for majors in the College of Communications. Prereq: English 102. F, Sp

203 Editing (3) Methods and practice in judging news, editing copy, writing headlines and designing newspapers and magazines. Emphasis on precise word use and news display. Prereq: Communications 200. F, Sp

270 Public Relations Principles (3) Theories and principles of public relations. Overview of public relations in management of business, government, institutions and organizations. Brief case studies and public relations projects. F, Sp

290 Photojournalism (3) Principles and practice of photography as a creative tool of communication. Basic camera technique, darkroom work, historical and contemporary photojournalism. Lecture and laboratory. E

310 Feature Writing (3) Skills of journalism for writing feature articles for newspapers, magazines and company publications. Critiquing of students' work in writing workshops, and assignments in class-places as assigned. Prereq: typing proficiency.


370 Public Relations Cases (3) Oral and written analysis of current and classic case studies in public relations. Ethics, professional organizations, publications, research and forms of public relations. Methods of communication and persuasion. Prereq: 270. F

390 Communications Graphics (3) Principles and practice in the visual aspect of communications. Emphasis on graphic design, typography, illustration and photography, printing and production techniques and publication design. Lecture and laboratory. Prereq: 201 or Communications 200 or consent of instructor. E

403 International Communications (3) Development and operations of world mass communications networks and agencies. Comparative analysis of media, media practices, flow of news worldwide. Use of print and broadcast systems studies in terms of relevant social, political, economic and cultural factors. Relation of communication practices to international affairs and underlying ideologies. E

412 Opinion Writing (3) Analysis of editorial positions, practices, and pages. Writing editorials and columns for newspapers, magazines, and company publications, with emphasis upon study and use of rhetorical devices and logic. Prereq: 203 or consent of instructor.

414 Magazine Article Writing (3) Techniques of writing in-depth articles for mass circulation and specialized magazines. Organizing and presenting material, with attention to problems in areas such as business, science, agriculture, the humanities. Prereq: 203 or consent of instructor.

416 Issues in Journalism (3) Topics vary. May be repeated. Maximum credit 6 hours. Prereq: Consent of instructor.

420 Print Media Management (3) Current business practice among print media, especially newspapers. Problems of management and production, and the outlook for new technologies. Prereq: 6 hours math and/or accounting, and senior standing. Sp


433 Advanced Editing (3) Primary focus is on sensitivity to language and complexity of skills involved in headline writing, editing and production. Prereq: 203. E

460 Mass Communications History (3) Development of the press and the role of mass communications in American history. Newspapers, radio, television and magazines. F

470 Public Relations Campaigns (3) Research, planning, and communication and evaluation of major public relations campaigns. Oral and written presentation of a public relations project from inception to completion. Extensive outside work. Prereq: 270. Sp

480 Journalism in the High School (3) Functions and methods of high school publications. Staff selection, content of publications, copy, layout, photography, printing, advertising and business. Planning course outlines and curricula for journalism/mass media studies.

490 Advanced Photojournalism (3) Advanced principles and methods of black-and-white photography. Introduction to color photography. News and feature photography, photo essays. Prereq: 290, or consent of instructor. Sp

492 Field Experience (1-2) Approved internships and other supervised practice in journalism and public relations. May be repeated for a maximum of 4 credit hours. Prereq: Senior standing and consent of instructor. E

493 Independent Study (3) May be repeated for maximum of 6 hours. Prereq: Consent of instructor.

LATIN

111-112 Beginning Latin (3,3) Must be taken in sequence.

251 Intermediate Latin: Grammar Review and Readings (3) Prereq: 112 or equivalent.

252 Intermediate Latin: Vergil's Aeneid (3) Prereq: 251 or equivalent.

351 Cicero and Sallust (3) Prereq: 252 or equivalent.

352 Roman Lyric Poetry (3) Poetry of Catullus, Horace, and the elegists. Prereq: 252 or equivalent.

414 Cicero and Techniques of Latin Prose Composition (3) For advanced students in Latin. Practice in prose composition, the writings of Cicero the model. Prereq: 351-352 or consent of instructor.

431-432 Selected Readings from Latin Literature (3,3) For advanced students in Latin. Oratory, historical writings and poetry of ancient Rome, in the original Latin. May be repeated for credit. Maximum 9 hours. Prereq: 351-352 or consent of instructor.

425 Medieval Latin (3) Selected readings from the Latin prose and poetry of medieval Europe. Prereq: Consent of instructor.

LATIN-AMERICAN STUDIES (600)

251-252 Introduction to Latin American Studies (3,3) Societies of Latin America with special emphasis on dominant culture patterns, social changes, and impact of nationalism. First-Iberian Colonial and Colonial periods through Independence era. 252-Latter 19th century and the Modern period. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

311 Aspects of Luso Brazilian Literature (3) (Same as Portuguese 311.)

312 Aspects of Spanish American Literature (3) (Same as Spanish 312.)

313 Peoples and Cultures of Mesoamerica (3) (Same as Anthropology 313.)

355 Latin American Government and Politics I (3) (Same as Political Science 355.)

360 History of Latin America (3) (Same as History 360.)

361 History of Latin America (3) (Same as History of 361.)

372 Geography of Middle America (3) (Same as Geography 372.)

373 Geography of South America (3) (Same as Geography 373.)

401 Cultural Plurality and Institutional Changes in Latin America (3) Value systems, behavioral patterns, political parties, role of the military, the church, educational institutions, dictatorship and nationalism. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

402 Latin American Studies Seminar (3) Selected topics in Latin American studies. May be repeated. Maximum 6 hours.

431 Directed Readings in Brazilian and Portuguese Literature (3) (Same as Portuguese 431.)

432 Directed Readings in Brazilian and Portuguese Literature (3) (Same as Portuguese 432.)

450 20th-Century Hispanic Theatre (3) (Same as Spanish 450.)

455 Latin American Government and Politics II (3) (Same as Political Science 455.)

471 Latin American Civilization (3) (Same as Spanish 471.)

472 Masterpieces of Spanish American Literature (3) (Same as Spanish 472.)

473-474 Survey of Spanish American Literature (3) (Same as Spanish 473-474.)

475 Studies in Latin American History (3) (Same as History 475.)

479 Social Protest Literature of Latin America (3) (Same as Spanish 479.)

LIBRARY AND INFORMATION SCIENCE (620)

310 Finding Information: Resources and Strategies (3) Information as a critical resource for research and decision making, emphasis on planning and executing in formation searches and using library resources. E

330 Books and Related Materials for Children (3) Materials for children in leisure time or classroom activities; criteria for selecting books, magazines, recordings, films and related materials; storytelling and other devices for encouraging reading. Undergraduate Credit only. E

340 Books and Related Materials for Young People (3) Materials for teenagers in leisure time or classroom activities; criteria for selecting books, magazines, recordings, films and related materials; book talks and other devices for encouraging reading. Undergraduate credit only. Sp

343 History of the Book (3) History of writing and various methods of bookmaking from earliest times through the 19th century. Sp

475 Utilization of Instructional Media (3) Same as Educational Curriculum and Instruction 475. E

LINGUISTICS (623)

200 Language, Linguistics and Society (3) Introduction to linguistics with focus on language development and use of language by individuals and groups. Prereq: Completion of Freshman English or equivalent.

311 Foundations of the English Language (3) (Same as English 371.)

372 The Structure of Modern English (3) (Same as English 372.)

400 Topics in Linguistics (3) Content varies. May be repeated. Maximum 6 hours.

411 Linguistic Anthropology (3) (Same as Anthropology 411.)

420 The Development of Historical Linguistics as a Science (3) Development of the scientific understanding of language change. Emergence of the Neogrammarian paradigm from 19th century intellectual trends. Impacts of phonetic, descriptive, structural and transformational generative linguistics on contemporary diachronic theory. Prereq: 6 hours of courses required for Linguistics concentration or consent of instructor.

425 Introduction to Descriptive Linguistics (3) (Same as French 425, German 425, Russian 425, and Spanish 425.)

426 Methods of Historical Linguistics (3) (Same as French 426, German 426, Russian 426, and Spanish 426.)

429 Romance Linguistics (3) (Same as French 429 and Spanish 429.)
430 The Development of Synchronic Linguistics as a Science: An account of the development of the science of synchronic linguistics and an overview of its major landmarks.

435 Structure of the German Language (3) (Same as German 435.)

436 History of the German Language (3) (Same as German 436.)

471 Sociolinguistics (3) (Same as English 471 and Sociology 471.)

472 American English (3) (Same as English 472.)

474 Teaching English as a Second or Foreign Language I (3) (Same as English 474.)

475 Teaching English as a Second or Foreign Language II (3) (Same as English 475.)

485 Special Topics in Language (3) (Same as English 485.)

LOGISTICS AND TRANSPORTATION (624)

301 Introduction to Logistics (3) Business logistics as a fundamental element of the marketing mix. Role of materials management and physical distribution, and activities such as customer service, order processing, and information flow, transportation, warehousing, purchasing, inventory, and systems design and organization.

302 Introduction to Transportation (3) Transportation and distribution as a vital part of the nation's economic and social structure. U.S. transportation system; society's demands for mobility and policies of public and private sectors to meet those demands. Prereq: Economics 201.

400 Special Topic in Logistics and Transportation (3) Seminar in current problem area in logistics and transportation. Topic announced prior to offering. May be repeated once for additional credit provided topic is different. Maximum 6 hours. Prereq: Consent of instructor.

401 Materials and Traffic Management (3) Planning and management of logistics activities including purchasing, transportation, storage, and supply strategies. Materials management tools and organizational structures for various industries. Prereq: 301-302.

402 Transportation Operations and Cost Management (3) Freight carrier operations with the development of carrier costs and their control considered by each carrier individually and in coordination with each other. Prereq: 301-302.


450 Computer Information Systems Analysis and Design (3) Design of operational/logistical information systems for organizations based on evolving microcomputer hardware networks, data base design theory, procedural and standard query language software. Analysis of operational decision support requirements. Prereq: Management 303.

461 Seminar in Logistics Strategy (3) Senior seminar in development of strategy in logistics management. Major writing requirement. Prereq: 301, 302 and senior standing.

462 Seminar in Transportation Strategy (3) Senior seminar in development of strategy in transportation management. Major writing requirement. Prereq: 6 hours of credit. Prereq: Consent of instructor.

493 Independent Study (1-4) Directed research on subject of mutual interest to student and staff member. May be repeated. Maximum 6 credit hours. Prereq: Consent of instructor.

497 Honors: Executive-in-Residence in Transportation and Logistics (3) Student interaction with top-level logistics and transportation executives. Focus on the strategic decision-making process. Prereq: Consent of instructor.

MANAGEMENT (625)

301 Principles of General and Operations Management (3) Basic functions of general management and the concepts and techniques used in operations management. Includes lectures and discussion/problem solving sessions. Prereq: Statistics 201.

303 Management Information Systems (3) Management-in-organization contexts. Organizational information needs, management decisions relating to information and systems design, data base management systems and applications software development. Prereq: Computer Science 102.

311 Labor Relations and Collective Bargaining (3) American labor history, structure and philosophy of contemporary unions, nature of collective bargaining, and dispute settlement. (Same as Economics 345.)

321 Organizational Structure and Behavior (3) Behavioral processes in organizations; motivation, leadership, decision making, communication; behavioral consequences; group behavior, informal organizations, organizational structure, conflict, politics, change and development. Prereq: 301.


401 Business Strategy/Policy (3) Strategy and policy which affect the success of the total enterprise. Capstone course which integrates all functional areas in the formulation and implementation of strategy which will enable the organization to reach objectives. Major writing requirement. Prereq: Completion of business core courses and senior standing. Must be admitted to a business major.

421 Business Strategy Formulation and Implementation (3) General business simulation used by teams which formulate and implement business strategy. Application of strategic planning and group management skills. Prereq: 301, 302.

431 Personnel Management (3) Theory, methods and issues pertaining to successful personnel management. Prereq: 301, senior standing.

432 Implementation and Evaluation of Personnel Programs (3) Methods of identifying, developing, implementing and evaluating various personnel programs. Prereq: 431, senior standing.

440 Organizational Psychology (3) (Same as Psychology 440.)

441 Operations Management II (3) Planning and control of operations systems. Aggregate planning, scheduling systems, materials management. Prereq: 341.

461 Database Management in Business (3) Application, logical structure, and implementation of database systems. Methods for assessing and choosing the most effective database systems for organizations. Prereq: Computer Science 261.

471 International Management (3) Factors significant to the management in international business activities. Prereq: 301.


493 Independent Study (3) Readings, research, and special projects. Prereq: Consent of instructor. May be repeated one time for credit.

MANAGEMENT SCIENCE (627)

310 Management Science and Managerial Decision Support Systems (3) Introduction to quantitative decision models and their integration into microcomputer-based decision support systems. Topics include linear, dynamic and network modeling, as well as decision analysis, Markov, Inventory and queuing models. Prereq: Mathematics 121, 122 and Statistics 201.

MARKETING (632)

301 Marketing Management (3) Institutions comprising the marketing environment; principal environmental opportunities and constraints facing the marketing manager. Prereq: Accounting 201-202, Economics 201, and Statistics 201.

310 Buyer Behavior - Analysis for Marketing (3) Comprehensive framework of consumer behavior concepts and processes. Application to market analysis, design and control of marketing programs. Prereq: 301.

320 Marketing Research and Information Planning (3) Marketing Research process from its inception to implementation of the study's results. Student should be able to critically evaluate a research project as well as possess the ability to design a sound market project. Major writing requirement. Prereq: 301 and Statistics 201.

420 Promotion Management (3) Principles and practices of promotion management and their relationship to overall marketing program. Managerial focus emphasizing types of decisions continually confronting promotion executives. Prereq: 301.

430 Marketing Analysis and Strategy (3) Approaches for finding markets and evaluating them for opportunity. Concepts, types of information and analysis techniques combined into a framework for strategic decision making. Major writing requirement. Prereq: 310 and 320.

493 Independent Study (1-6) Directed research on subjects of mutual interest to student and staff member. May be repeated. Maximum six credit hours. Prereq: Consent of instructor.

497-498 Honors I & II (3,3) Topics may include non-business marketing applications, macro-environmental issues, market research, services marketing, marketing channels and related issues. Prereq: Consent of instructor.

MATHMATICS (641)

110 Algebraic Reasoning (3) A course in the application of elementary mathematics to life in the modern world. Includes applications in financial mathematics, consumer mathematics, and other areas. Students preparing to take 121 should take 119 instead of 110. Prereq: Two years of algebra and one year of geometry. This course should not be taken to remove an entrance requirement.

115 Statistical Reasoning (3) An introduction to probability and statistics without calculus. Not available for credit to students in the College of Business Administration. Prereq: Two years of algebra and one year of geometry in high school, plus satisfactory placement test scores, or 110, or 119, or 130.

119 Precalculus A (3) A review of algebraic functions, equations, and inequalities for students who satisfy the course prerequisites for 121 but whose placement test scores indicated additional preparation is necessary. Students who receive credit for 119 or 122 may subsequently receive credit for 121. Prereq: Two years of algebra and one year of geometry in high school, plus satisfactory placement test scores, or 110, or 130.

121 Calculus A (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Calculus of algebraic, exponential, and logarithmic functions, with applications. No student who has received credit for Math 141 or 151 with a grade of C or better in any course numbered 121 or higher may subsequently receive credit for 119. Prereq: Two years of algebra and one year of geometry. This course should not be taken to remove an entrance requirement.

122 Calculus B (3) Sequel to 121, including elementary matrix algebra, multiple variable calculus, and optimization. No student who has received credit for 241 or 251 may subsequently receive credit for 122. Prereq: 121, or 141, or 151.

130 Precalculus (4) Review of algebraic, logarithmic, exponential, and trigonometric functions for students who satisfy the course prerequisites for 141 or 151, but whose placement test scores indicate additional preparation is necessary. Students who have earned a grade of C or better in 141 or 151 may not subsequently receive credit for 120. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school. Students who did not study trigonometry in high school may take the non-credit course in trigonometry simultaneously with 130.
who have received a grade of C or better in 251 may not
vectors. For students in the College of Engineering and
ences. Credit will not be given for both 141 and 151.
the life sciences. Topics from calculus of algebraic,
ment test scores, or 130.
of trigonometry in high school, plus satisfactory place-
single variable calculus, especially for students of sci-
141-142 Calculus I, 11(4,4) Standard first-year course in
variables (including binomial, Poisson, uniform and
emphasizing integers and polynomial rings. Prereq:
Numerical Algorithms I (3) Selection of algorithms and
roots of polynomial equations, least squares data fitting,
integration, numerical integration, numerical methods for
finite differences), and the theory of linear equations and
and fluid flow. Prereq: 443.
443 Complex Variables I (3) Advanced calculus, including
of functions of a complex variable, including residue
442-446 Advanced Calculus I, II, (3,3) Introduction to al-
general settings, as groups, real vector spaces, linear
instructor.
457-558 Honors: Abstract Algebra I, II, (3,3) Honors
version of 455-456. Prereq: 351 or consent of instructor.
Geometry (3) Axiomatic and historical development of
Euclidean and hyperbolic geometry stressing proof technique and critical reasoning. Models of Non-Euclidean geometries. Prereq: 141-142 and 221, or consent of instructor.
Topology (3) Includes topology of line and plane, separation properties, compactness, connectedness, continuous functions, homeomorphisms, continua, and topological invariants. Prereq: 341 or consent of instruc-
471 Numerical Analysis (3) Introduction to computa-
instabilities, and rounding. Interpolation and approx-
by polynomials, numerical integration, least squares data
and continuous random variables. Prereq: MTH 221 and 151.
472 Numerical Algebra (3) Direct and iterative meth-
470 Writing in Mathematics (1-3) Open to superior
students with consent of department head. Independent
work. May be repeated. Maximum 9 hours. Prereq: Agreement of faculty mentor to supervise independent work.
Seminar in Mathematics (1-3) Topics will vary. Will require out-of-class projects and in-class presenta-
tions by students. Students must register for the num-
ber of credit hours announced for a particular seminar. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

MEDICAL BIOLOGY (661)

410 Laboratory Safety Education (2) Preparation for laboratory work. Emphasis on principles and hazards of flammable and nonflammable chemicals, isolation, bioethics, methods of hazardous materials, and handling of hazardous materials. A minimum of 20 contact hours and 20 credit hours is required. The course is offered on a credit/no credit basis.

411 Undergraduate Research Participation (1-3) Experience in active biomedical research projects under the supervision of a faculty mentor. Students must register for the number of credit hours announced for a particular seminar. May be repeated. Maximum 9 hours. Prereq: Consent of faculty mentor. Credit/no credit.

MEDICAL TECHNOLOGY (669)

410-411 Microbiology (4,4) Laboratory work in bacteriology, including plate counting, colony and standard deviation, and use of the fluorometer. Emphasis on isolation, identification, and use of the basic techniques of laboratory work. A minimum of 20 contact hours and 20 credit hours is required. The course is offered on a credit/no credit basis.

420-421 Clinical Chemistry (5,5) Clinical aspects of biochemistry, including principles and methods of biochemistry, enzymes, and their role in metabolic processes. The course is offered on a credit/no credit basis.

420-421 Clinical Chemistry (5,5) Clinical aspects of biochemistry, including principles and methods of biochemistry, enzymes, and their role in metabolic processes. The course is offered on a credit/no credit basis.

420-421 Clinical Chemistry (5,5) Clinical aspects of biochemistry, including principles and methods of biochemistry, enzymes, and their role in metabolic processes. The course is offered on a credit/no credit basis.
430-431 Hematology and Clinical Microscopy (4,4) Principles, theory, and instrumentation of modern hemato- logical and quantitative evaluation of cellular elements of blood and other body fluids; factors of hemostasis, quantitative and qualitative evaluation of cells and response to infection. Emphasis on microscopic identification of cells and the significance and correlation of laboratory data.


450 Clinical Serology and Immunology (2) Performance and interpretation of broad range of clinical sero- logical and immunological procedures with emphasis on principles and clinical correlation. Formal lecture series included.

470 Orientation and Basic Techniques (1) For facili- tation of students from campus to hospital community and clinical laboratory. Introduction to medical terminol- ogy, ethics, and health team concept. Orientation to basic techniques including procedures for collection and handling of specimens, principles of operation of many laboratory instruments, review of laboratory math, and introduction to quality control procedures. Portions of course extend over entire clinical year.

480 Principles of Supervision and Education in Medicine (3) Seminars in basic principles of manage- ment, supervision, and education theories and meth- ods. Comprehensive examination covers entire course.

MILITARY SCIENCE (688)

110 Basic Military Science (3) Formation and function- ing of the American defense establishment, customs and traditions of the army, application of the principles of war and course in military leadership at the United States. Introduces military skills of marksmanship and mountaineering. Prereq: United States citizen; fresh- men or sophomore standing. Students with higher stand- ing require consent of instructor. Letter grade only. F, Sp, Su

120 Leadership Development Techniques (2) Intro- duction to basic leadership theory, human motivation theory, and principles of efficient and effective commu- nication. Application of theories and principles in indi- vidual and group exercises. Prereq: 110 or consent of the Professor of Military Science. Letter grade only. F, Sp, Su

200 Basic Military Studies - Practicum (4) 240 contact hours of instruction and evaluation at Fort Knox, Ken- tucky over a six week period during the summer. Prereq: United States citizen; in pursuit of a commission on or more standing with two years remaining at the University (either undergraduate, graduate or in pursuit of addi- tional course work; cumulative GPA 2.00 or above; legally qualified. Letter grade only. Su

210 Basic Military Leadership (2) Preview of the platoon leaders job with practical exercises in leadership principles, and rules of engagement. Prereq: 120 or consent of the Professor of Military Science. Letter grade only. F, Sp, Su

220 Basic Officer Skills (3) Small unit operating tech- niques included medical techniques, land navigation, legal doctrine. Letter grade only. F, Sp, Su

310 Advance Military Studies I (4) Applied leadership including operation of the military team, electronic communications, land navigation, small unit leadership, internal defense development, field trip, and leadership laboratory. Philosophy of organization and organization of military in tactical and administrative roles. Prereq: United States citizen; physically qualified; at least sophomore; either undergraduate, graduate or in pursuit of addi- tional course structure of 310, 320, 200, 410, 420, 400. Letter grade only. 3 hours and 1 hour lab. F

320 Advance Military Studies II (4) Applied leadership including operation of the military team, electronic communications, land navigation, small unit leadership, internal defense development, four field trips, and lead- ership laboratory. Philosophy of organization and op- eration of military in tactical and administrative roles. Prereq: 310 or consent of instructor. Letter grade only. 3 hours and 1 hour lab. F

400 Advance Camp-Practicum (4) 240 contact hours of instruction and evaluation at Ft. Lewis, Wash- ington during the summer between the Junior and Senior year. Prereq: 310, 320. Letter grade only. F

410 Command and Staff Functions (4) Command and staff duties and relationships including logistics, person- nel systems, efficiency report, correspondence, train- ing management, briefings, counselling, strategic force production, and non-commissioned officer relationships. Prereq: 310 and 320, or consent of instructor. Letter grade only. 3 hours and 1 hour lab. F

420 Military Ethics and Law (4) Military profession, ethics, reasoning, critical thinking, national security, and leadership. Military justice system, individual leader- ship, Law of Land Warfare. Prereq: 310, 320 and 400,
482 Internship II: Grades K-12 (3-6) Demonstration of professional competence in planning, instruction and classroom management. Internship is completed in local public schools. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. Sp

490 Special Topics in Music Education (1-3) Prereq: Consent of instructor. May be repeated. Maximum 9 hours. Letter grade only. E

493 Independent Study in Music Education (1-5) Prereq: Consent of instructor. May be repeated. Maximum 9 hours. Letter grade only. E

495 Advanced Music Methods for Elementary Teachers (3) Continuation and amplification of the concepts and skills covered in Music Education 330. Intended for Elementary Education majors. Prereq: 300 or consent of instructor. Letter grade only. Sp

MUSIC ENSEMBLE (708)

361-501 Woodwind Choir (1,1) May be repeated.
303-503 Small Jazz Ensemble (1,1) May be repeated. Maximum 12 hours.
304-504 Jazz Ensemble (1,1) May be repeated.
365-505 Studio Orchestra (1,1) May be repeated. Maximum 12 hours.
366-506 Trombone Choir (1,1) May be repeated.
309-509 Tubas Ensemble (1,1) May be repeated.
310-510 Percussion Ensemble (1,1) May be repeated.
311-511 Marimba Choir (1,1) May be repeated.
312-512 Baroque Ensemble (1,1) May be repeated.
313-513 Synthesizer Ensemble (1,1) May be repeated.
314-514 Brass Choir (1,1) May be repeated.
315-515 Chamber Music Ensemble (1,1) May be repeated. Maximum 12 hours.
320-520 UT Singers (1,1) May be repeated.
330-530 Chamber Singers (1,1) May be repeated.
352-532 Collegium (1,1) May be repeated.
354-534 Saxophone Choir (1,1) May be repeated.
340-540 Opera Theatre (1,1) May be repeated.
342-542 Opera Workshop (1,1) May be repeated.
350-550 Concert Band (1,1) May be repeated.
352-552 Campus Band (1,1) May be repeated.
354-554 Varsity Band (1,1) May be repeated.
356-556 Laboratory Band (1,1) May be repeated.
359-559 Marching Band (1,1) May be repeated.
370-570 Symphony Orchestra (1,1) May be repeated.
380-580 Concert Choir (1,1) May be repeated.
382-582 University Choir (1,1) May be repeated.
383-583 Men's Chorale (1,1) May be repeated.
389-589 Women's Chorale (1,1) May be repeated.
399-599 Accompanying (1,1) May be repeated.

MUSIC GENERAL (698)

100 Fundamentals of Music (3) Theory and practice of basic elements of music. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

110 Music Appreciation (3) Developing listening skills and understanding of Western music from the ancient world through the 20th century. For non-music majors. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

120 History of Rock (3) Study and appreciation of rock music, its origins in blues and rock and roll, its development and cultural dimensions to the present. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

130 Music Performance (3) Individualized course of study combining participation in a University musical ensemble with collateral study of an instrument or voice. One of a series of applied study (Music Performance 103-140) and ensemble rehearsals as scheduled (Music Ensemble 301-389). May be repeated once for credit. Requires arrangement of Applied study fee. For non-majors only. Prereq: Performing ability on an instrument or voice.

200 Solo Class (0)
301 Junior Recital (0)
401 Senior Recital (0)
411 Lecture Recital (0)

21 Special Topics in Performance (1-3) Prereq: Consent of department head. May be repeated. Maximum 4 hours.

431 Special Topics in Pedagogy (1-3) Prereq: Consent of department head. May be repeated. Maximum 4 hours.

MUSIC HISTORY (709)

200 Introduction to Music Literature (3) Basic forms of music and accepted masterworks through chronologically. For music majors and minors only.

210-220 History of Music I, II (3,3) 210-to 1750. 220-to present. Prereq: 200. Must be taken in sequence.

310 Introduction to Afro-American Music (3) History of African music, blues, gospel music, and jazz with emphasis on Black artists and their contributions. (Same as Afro-American Studies 310.)

330 Women in Music (3) History of women in music from the Middle Ages to present as composers, performers, educators, and patrons. (Same as Women's Studies 330.)

350 History of Jazz (3) Origin, development, and styles of jazz music and its exponents. Cultivation of special listening techniques. (Same as Afro-American Studies 350.) Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

390 World Music (3) Basic attitudes and techniques of ethnomusicology. Survey of music cultures throughout the world, with emphasis on the Pacific, Near East, Asia, and Europe.

400 Music History Survey (3) History of music with emphasis on genres, style changes, and cultural forces. Recommended for music majors and minors only. Western European tradition from 400 to 1900. Recommended as a review course for graduate students. Prereq: Consent of instructor.

410 Music History Genre (3) Topics vary. May be repeated for credit. Maximum 8 hours.

420 History of Opera (3) Dramatic, vocal, and orchestral elements in opera of Italian, French, and German schools. 1600-present.

430 Symphonic Literature (3) Survey of literature for orchestra from Baroque to the present, with emphasis on the evolution of the symphony.

440 Music of North America (3) Folk and art music of the United States and Canada from colonial times to the present. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

450 Composer Seminar (3) Life and works of single composers. Select topics vary.

460 Music Aesthetics (3) Nature of music and musical experience, sense perception and emotions, music, and role of artist in society. Aesthetic viewpoint of individuals and historical eras through selected writings. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

480 Music in Christian Worship (3) Music traditions in Christian worship, including hymnody.

490 Church Music Methods and Administration (3)

493 Independent Study (1-15) Prereq: Consent of department head. May be repeated for credit.
240 Church Service Playing I (1) Practical skills applicable to the use of the organ in church services, including improvisation, hymn playing, and accompanying. Prereq: 230 and organ proficiency at the 200 level.

310-320 Church Service Playing II, III (1,1) Continuation of 240. Prereq: 240.

330 Sight Reading at the Keyboard (1) Prereq: Consent of instructor.

410 Early Keyboard Literature (2) Keyboard music through the baroque period, with primary emphasis on music for the harpsichord. Prereq: Music History 210-220.

420-430 Piano Literature I, II (2,2) 420-From 1750 to middle 19th century. 430-Middle 19th century to the present.

440-450 Piano Pedagogy I, II (2,2) Pedagogical methods and materials related to the development of principles of learning; specific programs based on pupil aptitude and background; collateral teaching experience. Must be taken in sequence. Prereq: Consent of instructor.

460-470 The Organ and Its Literature I, II (3,3) Development of the organ and organ literature from the Middle Ages to the present; problems of style and interpretation; pedagogical literature and methods; organ design. Prereq. or Coreq: Music History 220 and consent of instructor.

480 Teaching Class Piano (2) Historical survey and evaluation of teaching methods and methodology for college and/or adult beginning piano classes, with collateral teaching experience. Prereq: Consent of instructor.

485 Suzuki Piano Method I (2) Study of the psychology, procedures, and literature of the Suzuki piano method. Must be taken in sequence. Prereq: Consent of instructor.

488 Suzuki Piano Method II (2) Study of the psychology, procedures, and literature of the Suzuki Piano Method. Prereq: Consent of instructor.

MUSIC PERFORMANCE (713)

103-203-303-403-503 Flute (1-4) May be repeated.

105-205-305-405-505 Oboe (1-4) May be repeated.

110-210-310-410-510 Bassoon (1-4) May be repeated.

115-215-315-415-515 Clarinet (1-4) May be repeated.

120-220-320-420-520 Saxophone (1-4) May be repeated.

125-225-325-425-525 Horn (1-4) May be repeated.

130-230-330-430-530 Trumpet (1-4) May be repeated.

135-235-335-435-535 Trombone (1-4) May be repeated.

140-240-340-440-540 Baritone (1-4) May be repeated.

145-245-345-445-545 Tuba (1-4) May be repeated.

150-250-350-450-550 Percussion (1-4) May be repeated.

155-255-355-455-555 Voice (1-4) May be repeated.

160-260-360-460-560 Violin (1-4) May be repeated.

165-265-365-465-565 Viola (1-4) May be repeated.

170-270-370-470-570 Cello (1-4) May be repeated.

175-275-375-475-575 String Bass (1-4) May be repeated.

178-276-376-476-576 Electric Bass (1-4) May be repeated.

179-279-379-479-579 Guitar (1-4) May be repeated.

180-280-380-480-580 Piano (1-4) May be repeated.


190-290-390-490-590 Organ (1-4) May be repeated.

254-354-454-594 Composition (1-3) May be repeated. Prereq: Consent of instructor.

395-495-595 Composition with Electronic Media (1-3) May be repeated. Prereq: Consent of instructor.

496 Composition for Media (2) May be repeated. Prereq: Consent of instructor.

499 improvisation (1-2) May be repeated. Prereq: Consent of instructor. Cannot be used to satisfy applied music requirement.

MUSIC THEORY (714)

110-120 Theory I, II (3,3) Materials of music including basic elements through triads and seventh chords and modulation. Exercises in writing and analysis of music with emphasis on common practice.

130-140 Ear Training I, II (1,1) Development of proficiency in identifying and notating melodic, harmonic, and rhythmic models. Includes computer lab. Must be taken in sequence. Should be taken concurrently with 110-120. A,B,C,NC grading.

210-220 Theory III, IV (3,3) Materials of music with emphasis on literature of Classic, Romantic, and contemporary periods. Exercises in writing and analysis. Must be taken in sequence. Prereq: 120 or consent of instructor.


250 Composition (2) Writing short vocal and instrumental compositions. Prereq: 220 or consent of instructor. May be repeated for credit. Maximum 4 hours.

290 Sound Recording Techniques (3) Theory and applications of tape recording's sound reproduction and reinforcement systems. Topics include room acoustics, audio measurements, microphones, studio and real-time processing, noise reduction, mixing, editing, monitors, system wiring, and maintenance.

310 Form and Analysis (3) Study and practice in analysis of forms of music from smallest structural units to large compound forms. Prereq: 220. May be repeated.

320 Instructional (3) Basic techniques in scoring for voices; brass, woodwind, and string chors; and percussion. Prereq. 220. May be repeated.

380 Synthesis Techniques (3) Studio and real-time applications of synthesizers. Historical background, theoretical concepts, equipment interface and usage, analysis of sounds and compositions. Prereq: 250 or consent of instructor.

400 Survey of Music Theory (3) Emphasis on harmonic practice of Baroque, Classic, and Romantic periods. Exercises in writing and analysis. Recommended as a one-semester course for graduate students. Prereq: Consent of instructor.

420 Orchestration (3) Advanced techniques in instrumental writing with emphasis on scoring for the concert orchestra. Prereq. 320. May be repeated.

440-450 Counterpoint I, II (3,3) 440-Species counterpoint; tonal and functional techniques with emphasis on works of Palestrina and J.S. Bach. Prereq: 220 or consent. 450-Writing of contrapuntal forms of the 18th century and fugue analysis of works from the 18th through the 20th centuries. Prereq: 430.

493 Independent Study in Music Theory (1-15) May be repeated for credit. Prereq: Consent of department head.

MUSIC VOICE (715)

110 Class Voice I (1) Development of basic vocal skills. May be repeated for credit. Maximum 2 hours.

120 Class Voice II (1) Prereq: Consent of instructor. May be repeated for credit. Maximum 2 hours.

121 Vocal Techniques in Popular Music (1) Development of performance techniques in Broadway and other contemporary music styles. Prereq: Consent of instructor. May be repeated for credit. Maximum 4 hours.

220 Introduction to Music Theatre Technology (2) Stage technology unique to lyric stage.

202 Health and Culture (3) An exploration of the beliefs and practices of various cultural groups within the United States in relation to health, illness and the health care delivery system; the helping professions are examined. This course has no prerequisites and will be open to all UT, Knoxville undergraduate majors. Prereq: Consent of instructor. Maximum 12 hours.

214 Integrated Biomedical and Health Sciences (1-3) Examination and application of selected theories from physics and chemistry, microbiology, and nutrition to nursing practice. Each module carries one credit. Prereq: One year of biology or chemistry or consent of instructor. E

301 Clinical Pharmacology (3) Biochemical and pharmacological effects of therapeutic drugs on the human body; positive and negative reactions to drugs and interaction effects between and among drugs. Prereq: Chemistry 100-10 and 6 semester hours of anatomy and physiology. F

302 Introduction to Professional Nursing (9) History, philosophy, and scope of nursing practice with emphasis on nursing process; cognitive and psychomotor skills necessary for effective nurse/client interactions. Clinical laboratory experiences emphasize the nursing process and its application to the care of individuals whose health problems require in-patient services. 6 lectures, 3 lab. Coreq: 301 and 304. F

304 Nursing Assessment and Wellness Promotion (4) Developmental, psychosocial, cultural, environmental, spiritual, and interpersonal dimensions of wellness; nursing assessment, diagnostic reasoning, and use of the nursing process in promotion and wellness. Evolution and expansion of the nursing role in the community, home care, and education. Laboratory sessions for development of nursing assessment skills. 3 lectures, 1 lab. Coreq: 301, 302. F

305 Transition to Professional Nursing (6) Current status of professional nursing; utilization of the nursing process in a changing health care delivery system; Philosophy and conceptual framework of the baccalaureate nursing program and selected physiological and behavioral deviations demonstrated by clients whose health problems require in-patient services. 5 lectures, 1 lab. For RN's only. F

311 Acute Care Nursing (10) Continuation of 302 with emphasis on physiological and behavioral deviations which underlie or are associated with more complex and critical illnesses of adults and children. Clinical laboratory experiences in adult and pediatric acute care settings for enhanced knowledge and skill in providing nursing care for children and adults with complex and critical illnesses. 6 lectures, 4 lab. Prereq: 301, 302 and 304. Sp

312 Acute Care Nursing Theory (6) Theoretical component of 311. For RN's only. Prereq: 301, 305. Sp

313 Introduction to Nursing Research (3) Language of research, research models, research design, methods, data analysis, and significance of findings. Evaluation of existing and ongoing nursing research studies. Prereq: 302 or consent of instructor. Sp

315 Clinical Nursing Research (2) Application of nursing theories, principles, and concepts to care of hospitalized clients. 3 credits. Prereq: 304, 312. For RN's only. Satisfactory/No Credit only. Sp, Su

317 Wellness and Lifestyle (3) Models of wellness and holistic health within the framework of modern medicine, eastern philosophy, and nurse/ client interaction about high potentiality and potentiality. Process of lifestyle changes will be facilitated by faculty. Open to undergraduate students in all colleges.

320 Advanced Placement Credit: Care of the Adult Client (3) For registered nurses only. Satisfactory/No Credit only. Sp

321 Advanced Placement Credit: Care of the Childbearing Client (3) For registered nurses only. Satisfactory/No Credit only. Sp

322 Advanced Placement Credit: Care of the Child (2) For registered nurses only. Satisfactory/No Credit only. Sp

323 Advanced Placement Credit: Care of Client with Mental Disorder (3) For registered nurses only. Satisfactory/No Credit only. Sp

390 Clinical Practice Elective (1-3) Supervised clinical practice in acute care settings; further development of clinical practice skills is emphasized. Prereq: 311. Satisfactory/No Credit only. Sp

401 Family Health Nursing (6) Nursing needs of families in illness and crisis. Provision of comprehensive care to families in the childbearing and childrearing phases of the family life cycle; application of theories of human growth and development, family dynamics, and crisis intervention to provision of nursing care to families experiencing normal child birth and to those experiencing such health problems or complications as congenital anomalies, high risk, birth defect, child who is a potential for growth; testing and gynecologic disturbances. 3 lectures, 3 lab. Prereq: All 300 level nursing courses. F

402 Family Health Nursing Theory (3) Theoretical component of 401. For RN's only. Prereq: 312. F

403 Community Health Nursing (4) Application of the nursing process to care of individuals, families, and groups in home and community settings with special emphasis on health promotion, disease prevention, and control of communicable diseases. Epidemiological approach is used to identify aggregates within the population that are at risk for illness, disability, or premature death. Political, social, economic, environmental, and ethical issues related to community health nursing. 2 lecture, 2 lab. Prereq: All 300 level nursing courses. F

405 Professional Nursing Seminar (2) Critical examination of legislative, legal, ethical, social, and educational issues and trends that have immediate or long-range implications for professional nursing practice. Prereq: Senior standing. For nursing majors only. Sp

409 Nursing Management and Strategies (8) Management and leadership principles and their application to client care. Course topics include quality assurance procedures, staffing patterns, nursing service delivery models, nursing practice standards, and evaluation of nursing practice; opportunities are provided for development of entry level nursing management role. 3 lecture, 3 lab. Prereq: 10 credits of 400 level nursing courses. Sp

514 Community Mental Health Nursing (6) Nursing needs of clients whose health problems are of a developmental, behavioral, or long-term nature. Equal emphasis on prevention, wellness promotion, and rehabilitation. Nursing laboratory/clinical experiences with a psychiatric patient population. Prereq: 302 and 305. For a variety of acute, extended care, and rehabilitation facilities. 3 lectures, 3 lab. Prereq: All 300 level nursing courses. 312. Sp

512 Psychosocial Long-Term Nursing Theory (3) Theoretical component of 411. For RN's only. Prereq: 312. Sp

514 Community Mental Health Nursing (6) Nursing needs of clients and groups with psychosocial and/or long-term health problems that provide opportunities for students to apply the nursing process to clients and groups in a variety of acute, extended care, and community settings. 3 lectures, 3 lab. Prereq: All 300 level nursing courses. For non-nurse MSN students only. F

415 Family/Community Health Nursing (6) Application of the nursing process to individuals, families, and groups in the childbearing/rearing stages of development. Clinical experiences are provided in a variety of hospital and community settings. Prereq: RN status or consent of instructor. No credit for students who have taken 302, 305, 311 or 312. F

450 Physiological Principles (3) Concepts and principles of normal human anatomy, and physiology. 4 lecture, 2 lab. Prereq: RN status or consent of instructor. F

451 Computers and Nursing Care (3) Computerized information processing with application to patient care, health care administration, nursing education, and nursing research. 2 lectures, 1 lab. Prereq: All 300 level nursing courses or consent of instructor.

453 Oncology Nursing (3) In-depth exploration of cancer and its related psychosocial, behavioral and physiological aspects of carcinogenesis and metastasis; treatment modalities and nursing interventions employed in all phases of the disease. Interdisciplinary approach analyzed. Prereq: 411 or 412 or consent of instructor. F

470 Special Topics (1-3) Indepth study of selected nursing topics, problems, or issues not covered in other courses. Topics determined by faculty and student interest. Prereq: Consent of instructor.

493 Independent Study (1-3) Nursing or health-related topic not covered in other nursing courses. Prereq: Senior standing or permission of instructor.

499 Special Topics (1-3) Indepth study of selected nursing topics, problems, or issues not covered in other courses. Topics determined by faculty and student interest. Prereq: Consent of instructor.

F

500 Food for the Next Century (3) Interdependence of people on planets; food consumption and food related health problems. C

100 Introductory Nutrition (3) Nutritional concepts; current consumer issues in nutrition; nutritional needs through life cycle; international nutrition concerns and/or issues. A student who has received credit for NFS 107 or 300 may not receive credit for this course. F, Sp

101 Food Principles (3) Food selection, safety, preparation, evaluation, meal planning, service. 2 hours and 1 lab. F, Sp

105 Food for the Next Century (3) Interdependence of people on planets; food consumption and food related health problems. C

107 Honors: Introductory Nutrition (3) Nutritional concepts; current consumer issues in nutrition; nutritional needs through life cycle; international nutrition concerns and/or issues. A student who has received credit for NFS 107 or 300 may not receive credit for this course. F, Sp

300 Fundamentals of Nutrition (3) Nutrition in normal and altered health states during life cycle; nutritional analysis of diets. Prereq: Chemistry 110 or equivalent. Zoology 230. A student who has received credit for NFS 107 or 300 may not receive credit for this course. F, Sp

301 Nutrition for Educators (3) Principles of nutrition; biochemical and physiological aspects of nutrition during the life cycle; nutrition education concepts and strategies. Prereq: 100 or 107, 101, Chemistry 100 or equivalent. Zoology 230, or consent of instructor. A, Sp

311 Science of Food (4) Chemical and physical properties of foods related to functional and nutritional properties; food processing; food chemistry; effects of processing on food; application of food principles to meal planning and presentation; computer applications. Prereq: 100 or 107, 201, Micro 210. 3 hours and 1 lab. F

312 Science of Food (4) Chemical and physical properties of proteins and lipids related to functional and nutritional properties of foods related to functional and nutritional properties; food processing; food chemistry; effects of processing on food; application of food principles to meal planning and presentation; computer applications. Prereq: 100 or 107, 201, Micro 210. 3 hours and 1 lab. F
nal and cultural landscapes. Introduction to awareness and appreciation of ornamental horticulture. Prereq: 110 and 8 hours Botany or consent of instructor. 3 hours and 1 lab. Sp

360 Practicum in Landscape Construction (3) Practicum experiences in landscape development projects. Directed lab and field instruction in planning operations and basic landscape construction including interacting and implementing landscape design drawings and specifications. Prereq: 350. Two 2 hour labs. Sp

370 Grounds Maintenance (3) Identification and understanding of maintenance tasks; transplanting, soil amendments, growth control, irrigation, climate protection and pest control. Maintenance and use of equipment; management practices. Prereq: 110. 2 hours and 1 lab. F

380 Supplemental Landscape Design Graphics (2) Refined graphic skills. Sketches, elevations, sections, isometric projections, and perspectives. Lettering, plan graphics, color rendering, and other visual presentation media. Prereq: 280. Two 2 hour labs. F


440 Advanced Turfgrass Management (4) Principles and scientific basis of turfgrass culture: adaptation, ecology, physiology, soil fertility, and grass nutrition; climatic influences on grass culture; physiology of clipping and water management; design, construction, and management of golf courses; physiological influences of pest infestation and control measures. Prereq: 340 or consent of instructor. 3 hours and 1 lab. Sp

450 Specialty Landscape Construction (2) Design, materials, and construction techniques for specialized components of the landscape industry. Irrigation systems, outdoor lighting, pools and other water features, and interior space construction. Prereq: 350. Two 2 hour labs. F

451 Plant Tissue Culture (3) (Same as Botany 451.)

460 Professional Practices in Landscape Construction and Management (2) Professionalism; salesmanship, proposal writing, estimating, specifications, and contract management in landscape services industry. Computer technology applicable to landscape construction and contracting industry. Includes presentations by industry representatives. Prereq: 350 or consent of instructor. 2 hours. So

480 Advanced Landscape Design (4) Comprehensive application of landscape design skills. Design applications involving site layout, landscape grading, applied landscape materials, and planting design. Prereq: 110, 220 or consent of instructor. 1 hour and 2 labs. E

490 Seminar (1) Current problems in ornamental horticulture. Prereq: Senior standing.

492 Off-Campus Internship (1-3) Work experience in approved ornamentals, turf or landscaping industry. May be repeated. Maximum of 6 credits. E

493 Individual Problem Study (1-3) May be repeated. Maximum of 6 credits. E

PHILOSOPHY (745)

110 The Human Condition: Value and Reality (3) The meaning of life, the existence of God, freedom of the will, human nature and value. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

111 The Human Condition: Knowledge and Reality (3) The place of mind in a material universe and the nature and possibilities of human knowledge. May be taken before 110. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

120 Foundations of Western Thought: Antiquity through 1500 (3) Plato, Late Antiquity and the Medieval Period. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

121 Foundations of Western Thought: 16th through Early Twentieth Century (3) Development of Rationalism, Empiricism, Romanticism, and Critical philosophy. May be taken before 120. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

130 Critical Thinking (3) An introduction to practical reasoning in natural language, designed to enhance skills in recognizing, analyzing, evaluating and constructing arguments. Add to Basic Skills Requirement "Mathematics, Computer Science or Logic".

135 Formal Logic (3) Introduction to formal deductive systems: propositional and predicate logic.

200 Special Topics (3) When content varies, may be repeated. Maximum 6 hours.

240 Ethics (3) Theories of ethical values. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

290 Social and Political Philosophy (3) Basic problems and concepts of social and political philosophy.

320 Ancient Western Philosophy (3) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

322 Medieval Philosophy (3) Development of medieval thought from St. Augustine to William of Occam. Second course repeated. Maximum of 6 credits.

324 Seventeenth- and Eighteenth-Century Philosophy (3) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

326 Nineteenth- and Twentieth-Century Philosophy (3) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

335 Intermediate Formal Logic (3) Metatheory of formal logic and philosophy of logic. Prereq: 135 or consent of instructor.

342 Business Ethics (3) Ethical problems as they confront both business as a social institution and individuals in business.

344 Professional Responsibility (3) Critical analysis of selected classic texts from philosophy, religious studies, and social sciences dealing with responsibility and the influence of religious beliefs on society. Theoretical principles and analytical skills applied to selected case studies and other detailed descriptions of professional practice from
446 Theoretical Issues in Medical Ethics (3) Prereq: 240 or 345 or consent of instructor. (Same as Religious Studies 446.)

460 Philosophy of Science (3) Methodological and conceptual issues in the natural and social sciences: patterns of theory modification and replacement, the nature of explanation and causation, the status of theoreti-cal entities. Prereq: 360 and one year of natural or social science, or consent of instructor.

465 Philosophy of History (3) Speculative and critical aspects of philosophy of history. Prereq: 6 hours of philosophy or consent of instructor.

473 Philosophy of Mind (3) Problems of mind and body in relation to consciousness and personal identity. Prereq: 6 hours of philosophy or consent of instructor.

475 Analytic Metaphysics and Epistemology (3) Topics in the Anglo-American tradition. Prereq: 6 hours of philosophy or consent of instructor.

476 Philosophy of Language (3) Survey of issues such as meaning, reference, and truth. Prereq: 6 hours of philosophy or consent of instructor.

479 Studies in Recent Continental Philosophy (3) Selected thinkers or topics from areas such as Existentialism, Phenomenology, Hermeneutics, Structuralism, Post-Structuralism, and deconstruction. Prereq: 6 hours of philosophy or consent of instructor. When content varies, may be repeated. Maximum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

PHYSICAL EDUCATION (764)

100 Orientation to Physical Education (2) Overview of the professional and disciplinary areas in physical education with special emphasis on introductory field experiences. Prereq: Taken the first semester in the student's major.

102 PE Major: Basketball (1) Fundamentals of basketball, including individual and team offensive and defensive strategies. Prereq: Consent of instructor.

103 PE Major: Tennis (1) Development of skills, rules and game strategies in tennis with application of skill analysis and various styles of teaching.

104 PE Education Major: Gymnastics (1) Beginning skills in tumbling and on selected men's and women's gymnastics apparatus. Tumbling skills include forward, backward, and balance skills. Apparatus include vaulting, balance beam, and pommel horse. Special emphasis on teaching techniques, safety, progression, and spotting.

105 PE Major: Folk and Square Dance (1) Basic folk and square dance steps, patterns and designs with emphasis on skill development, terminology, etiquette and teaching techniques.

106 PE Major: Track and Field (1) Basic skills of track and field with consideration of techniques for effective teaching.

260 Practicum I (1-6) First practicum experiences to support and clarify career goals. May be repeated. Prereq: Consent of instructor and progression to the major.

271 PE Major: Soccer/Softball (1) Basic fundamentals, including individual and team skills with consideration of techniques for effective teaching.

272 PE Major: Volleyball (1) Elementary and intermediate volleyball skills, general rules, and strategy related to the game of volleyball with particular emphasis on teaching techniques and sport psychology.

273 PE Major: Golf (1) Fundamental skills, general rules, and strategies related to the game of golf with emphasis on skill development and teaching techniques.

274 PE Major: Gymnastics II (1) Beginning skills in tumbling and on selected men's and women's gymnastics apparatus. Tumbling skills will include twisting skills, kips, and combinations of previous skills. Apparatus will include uneven bars, horizontal bar, parallel bars, and still rings.
345 Movement Education (3) Educational games, sports, dance, and gymnastics for children. Prereq: Admission to Teacher Education Program.

350 Sport Management: Theory to Practice (3) An overview of the managerial theories and applications including responsibilities and practices associated within the broad perspective of the sport enterprise. This course will deal primarily with the sport enterprise in the private sector.

356 Motor Development (3) Evolution of human motor behavior, with emphasis on the development of structural, functional changes, and with the respect to the psychological, sociological, and social-psychological factors related to and/or affecting motor performance/learning; analysis of changes in motor performance and underlying attributes across the lifespan with emphasis upon critical development periods. Prereq: Admission to Teacher Education Program or progression to the major.

372 Philosophy of Sport and Physical Education (3) Theories of reality and value as they apply to sport with emphasis on ethical issues. Prereq: Admission to Teacher Education Program or progression to the major.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of Physical Education. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

391 Psychology of Coaching (2) Major topics and theories dealing with social-psychological factors affecting and relating to sport performance, with practical implications for the coach training and coaching. Prereq: Admission to Teacher Education Program or progression to the major.

405 Sociology of Sport (3) Social meaning, organization and control processes of sport. Social stratification and sport, sport as an occupation, place of sport in mass culture, sport subcultures, and social influences of sport and cultural milieu. Prereq: 291 or Sociology 295, or permission of instructor. (Same as Sociology 405.)

409 Measurement and Evaluation of Physical Education (3) Measurement and evaluation in Physical Education. Critique, selection, and administration of appropriate affective, sport, skill, and knowledge assessment instruments for children through adult age group. Prereq: Junior standing and admission to Teacher Education Program or progression to the major.

410 Pre-Internship Seminar (1) Objectives and policies of the internship program. Must be completed the term immediately preceding the internship. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit. 1 credit.

411 Adapted Physical Education (3) Developmental disabilities, other physical/mental handicaps and variables/invariant characteristics of specific syndromes, germane to motor development/programming for those with special education needs.

412 Practicum in Adapted Physical Education (1) Teaching those with special education needs. Observation, planning, and inter-disciplinary team instruction for students who teach in schools for the handicapped and/or in which many handicapped individuals are mainstreamed. Prereq: Progression to the major. Coreq: 411.

413 Special Practicum in Adapted Physical Education (1) Two sections including an on-campus lab program with one-one-one with a 2-5 year-old child who is a high-educational risk and a section with experiences relevant to student needs with a physical education teacher, physical or occupational therapist, at a school for the handicapped. May be repeated. Maximum 3 hours.

414 Physical Activity and Fitness (2) Relationship of exercise to cardiorespiratory function, body composition, muscular fitness, and flexibility. Prereq: Zoology 230, progression to the major. Recommended that 415 be taken concurrently. (Same as Health 414.)

415 Health-Related Fitness Testing and Evaluation (1) Measurement and evaluation of cardiorespiratory function, body composition, strength, and flexibility. Prereq: Zoology 230, progression to the major. Coreq: 414. (Same as Health 415.)

416 Athletic Coaching Field Experience (1) Practical experience in coaching and related responsibilities. May be repeated. Maximum 2 hours. Prereq: Approval of instructor.

420 Methods in Physical Education (3) Application of theory and style of teaching to teaching/learning environments including planning, presenting, and evaluating experiences concerning knowledge, strategies, and skills for physical activity, games, and sport. Prereq: 391, progression to the major and field experiences. Prereq: Minimum 6 credits in Physical Education Major activity courses and admission to Teacher Education Program.

422 Applied Kinesiology (3) Study and emphasis of human movement with emphasis on biomechanical principles and their application to movement and neuromuscular function. Prereq: 322.

423 Readings in Physical Education (2) Current and classic literature in physical education.

424 Program Planning in Physical Education (2) Curriculum theory, principles, practices and issues specific to physical education with opportunities to develop and evaluate K-12 physical education programs. Prereq: Admission to Teacher Education Program.

426 Practicum II (1-6) Supervised experience in sport management or exercise/fitness areas. May be repeated. Maximum 18 hours. Prereq: 260, progression to the major, and consent of instructor.

442 Administration of Physical Education and Athletics (2) Topics in organizational concepts and management strategies related to physical education programs and athletics in the public schools. Prereq: Admission to Teacher Education Program or progression to the major.

450 Field Studies II (3) For physical education majors to design and implement learning units and evaluation techniques appropriate for K-12 physical education settings. Includes video-taping of learning experiences in the school setting. Prereq: 392 or 466 and admission to Teacher Education Program.

466 Motor Development Laboratory: Preschool or Primary (3) Application of selected perceptual-motor development, movement education, and conceptual principles to performance assessment and motor task/ lesson design and presentation to normally developing preschool or primary grade children. Participation in intra- or inter-disciplinary research projects. Prereq: 335 and admission to Teacher Education Program.

480 Physiology of Exercise (3) Lecture and lab class dealing with functions of the body in muscular work. Topics include physiological aspects of fatigue, training and adaptation to environment. Prereq: Zoology 230 or 440. 2 lectures and 1 lab. (Same as Zoology 480.)

481 Internship I: Grades K-12 (3-6) Methods and theories of teaching. Internship is completed in local public schools. Application for Internship should be made upon admission to Teacher Education Program. Prereq: 410 and admission to Teacher Education Program. Satisfactory/No Credit only. F

482 Internship II: Grades K-12 (3-6) Demonstration of professional competence in planning, instruction, and classroom management. Internship is completed in local public schools. Prereq: 481 and admission to Teacher Education Program. Satisfactory/No Credit only. Sp

490 Management or Fitness Internship (12-15) Full-time practice in approved business-agency. Prereq: Completion of 335 hours and progression to the major; additional prereq: for Exercise Physiology/Fitness Option: 322, 414, 415.

493 Directed Independent Studies (1-3) Independent study in a specialized area with physical education. May be repeated. Maximum 9 hours. Prereq: Consent of advisor and progression to the major. Satisfactory/No Credit or letter grade.

PHYSICAL EDUCATION SERVICE PROGRAM (766)

200 Special Topics (2) When content varies, may be repeated. Maximum 6 hours.

201 ARC WSI-Handicapped (1)

202 Badminton (1)

203 Elementary Ballet I (2)

204 Elementary Ballet II (2)

205 Basketball (1)

206 Bowling (1)

209 Flag Football (1)

210 Folk and Square Dance (1)

211 Golf (1)

212 Handball (1)

213 Ice Skating (1)

214 Elementary Jazz I (2)

215 Elementary Jazz II (2)

216 Martial Arts: (Special Topics) (1)

219 Coed Gymnastics: Men's Apparatus (1)

220 Elementary Modern Dance I (2)

221 Elementary Modern Dance II (2)

222 Paddleball (1)

223 Personal Safety and Self-Defense (1)

224 Physical Fitness: Conditioning (1)

225 Physical Fitness: Exercise to Music (1)

226 Physical Fitness: Exercise and Weight Control (1)

229 Physical Fitness: Jogging (1)

230 Physical Fitness: Swimming (1)

231 Physical Fitness: Walking (1)

232 Racquetball I (1)

233 Racquetball II (1)

234 Soccer (1)

235 Social Dance (1)

236 Softball (1)

239 Beginning Swimming (1)

240 Intermediate Swimming (1)

241 Emergency Water Safety (1)

242 Tap Dance I (2)

243 Tap Dance II (2)

244 Tennis I (1)

245 Tennis II (1)

246 Track and Field (1)

249 Tumbling I (1)

250 Tumbling II (1)

251 Volleyball (1)

252 Weight Training (1)

253 Coed Gymnastics: Women's Apparatus (1)

254 Yoga and Relaxation (1)

255 Water Safety Instructor (1)

256 Lifeguarding (1)

PHYSICS (773)

121-122 Introductory Physics (3,3) For students whose major is outside the physical sciences. Concepts of physics developed by observation of phenomena and logic, using a minimum of mathematical analysis, 121- Description of motion, forces, energy and momentum, properties of matter. 122-Electricity, magnetism, light, topics from modern physics including properties of atoms and nuclei. Must be taken in sequence. 3 hours lecture including demonstration lab. Prereq: Algebra.

131-132 Fundamentals of Physics: Mechanics and Heat (4,4) For engineers and liberal arts majors in mathematics and the physical sciences. Basic Engineering 121-131 is equivalent course for engineers. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 2 hours lab.

141-142 Nature of the Physical World (3,3) Concepts, vocabulary, and principles of physical sciences to establish a unified picture of the physical universe. 141-Principles of mechanics, heat and thermodynamics, and wave motion are developed and applied to fields such as solar systems, atomic and molecular behavior, radiation, dynamics of moving objects, and earth's climate. 142-Principles applied to topics such as stellar and galactic phenomena, nuclear energy, cosmology, atomic and oceanic phenomena, drifting continents, and science and society. Must be taken in sequence. 3 hours lecture including demonstration lab.

145 Physics of Athletic Activity (3) Principles of physics pertaining to mechanics and 3 or 4 hours lecture per week. 3 hours lecture and demonstration.

231-232 Elements of Physics for Computer Scientists (4,4) For students majoring in computer science. Principles of mechanics, heat and thermodynamics, wave motion and sound, electricity and magnetism, light, relativity, and modern physics. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture. 2 hours lab.

237 Honors: Electricity and Magnetism and Light (4) Honors course for selected students admitted on basis of performance in 131-132, 137-138 or Basic Engineering 131-132. Coreq: Mathematics 231. 2 hours lecture, 3 hours lab/recitation.

321-322 Mechanics (4) Basic physical principles and applications required in pre-medical, pre-dental, pre-pharmacy and pre-veterinary programs. 321-Mechanics, heat, wave motion, and optics. 322-Electricity and magnetism, modern physics. Must be taken in sequence. 3 hours lecture. Coreq: Mathematics 241. 3 hours lecture. 3 hours lab/recitation.

325 Principles of Non-Destructive Testing (3) (Same as Engineering Science and Mechanics 425.) Methods and general solutions in potential theory, specific methods of calculation. Solution of the Schrodinger equation for simple systems. Application to atomic, molecular, nuclear, and elementary particles. Must be taken in sequence. Prereq: 232 or equivalent, Mathematics 435.

326 Principles of Modern Physics (3) Transmission of light in uniform, isotropic media, reflection and transmission at interfaces, mathematics of wave motion and interference effects. Rudiments of Fourier optics and holography. 3 credit hours lecture. Prereq: 431 or 232 and consent of instructor. 3 hours lecture, 3 hours lab.

330 Physics of Music (3) Production, transmission, and reception of sound waves. Frequency, intensity, time and frequency dependence of instruments and voice. 3 credit hours lecture and demonstration.

241-242 Fundamentals of Physics: Electricity and Magnetism (4) For engineers and liberal arts majors in mathematics and the physical sciences. Required of all engineering majors. Coreq: Mathematics 231 or Basic Engineering 121-131. Coreq: Mathematics 231. 2 hours lecture, 3 hours lab/recitation.

243-244 Fundamentals of Physics: Wave Motion, Optics, and Modern Physics (4) Continuation of 231. Required of all engineering students. Prereq: 231. Coreq: Mathematics 241. 3 hours lecture. 3 hours lab/recitation.

283 Honors: Wave Motion and Modern Physics (4) Honors course for selected students. Continuation of 237. Prereq: 237. Coreq: Mathematics 241. 3 hours lecture, 3 hours lab/recitation.

311-312 Mechanics (3,3) 311-Kinematics and dynam-ics of simple particle systems, relating reference sys-tems, many body problems. 312-Many body systems, rigid bodies, Lagrangian and Hamiltonian mechanics, small oscillations and normal modes. Must be taken in sequence. Prereq or Coreq for 311: 231 and 231 Mathemat-ics. Coreq for 312: Mathematics 241.

321 Thermal Physics (3) Concepts of temperature and heat; laws of thermodynamics; elementary statistical mechanics; applications to physical and chemical problems. Prereq: 311 or 231 and consent of instructor.

340 Relativity and the Structure of the Atom (3) Special relativity and quantum mechanics as models of the atom. Fundamental concepts of modern physics and their applications to atomic systems. Prereq: 231.

341-342 Structure of Matter (3,3) 341-Subatomic phys-ics, basic particles of the nucleus and elementary particles. 342-Physics of molecules and condensed matter. May be taken in either order. Prereq: 340. 361-362 Electronics Laboratory (3,3) Electronic com-ponents, circuits, and their behavior. An introduction to operational amplifiers and simple circuits to instrumen-tation. 361-Analog electronics, including fundamental network theorems, complex impedance and admittance, frequency response and resonance, feedback, opera-tional amplifiers, oscillators, and various semiconductor devices, as applied to scientific instrumentation. 362-Digital electronics, including elementary building blocks of relevance to data processing systems, digital to anal-og conversion, analog to digital conversion, simple applications of microprocessors. Prereq: 222 or 232. 6 hours lab per week.

390 Junior Seminar (1-3) Topic of current interest. Prereq: Introductory Physics. May be repeated with consent of department. Maximum 6 hours.

401 Background of Physics (2) Historical develop-ment and philosophical foundations of natural science. Classical theories of attraction, electromagnetism, and relativity. Unifying mathematical principles underlying physical applications. Readings from important original papers. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

402 Forefront of Physics (2) Modern developments in physics: various forms of quantum mechanics, quantum electrodynamics and recent theories of particles, fields and their interactions. Un solved questions in physics, experiments of current interest, readings in recent litera-ture, and applications in other fields. Final oral report and term paper. Writing emphasis course: at least one in-class essay examina-tion and 3000 words of writing outside the classroom.

411-412 Introduction to Quantum Mechanics (3,3) Fundamental principles of quantum mechanics and methods of calculation. Solution of the Schrodinger equation for simple systems. Application to atomic, molecular, nuclear, and elementary particles. Must be taken in sequence. Prereq: 232 or equivalent, Mathematics 435.

421 Modern Optics (4) Transmission of light in uniform, isotropic media, reflection and transmission at interfaces, mathematics of wave motion and interference effects. Rudiments of Fourier optics and holography. 3 credit hours lecture. Prereq: 431 or 232 and consent of instructor. 3 hours lecture, 3 hours lab.

425 Principles of Soil Conservation (1-3) Stabilization of contours and terraces. Soil and water conservation practices. 3 hours lecture and demonstration.

431 Soil Fertility (3) Influence of soil properties on plant nutrient availability and uptake. Principles of fertilizer use and their reaction in soils. Prereq: 210. 2 hours and 1 lab. Prereq: Botany 110, 120 or Biology 110, 120, F.

490 Senior Seminar (1-3) Topics of current interest. May not be used as 300-level prerequisite for any course in Plant and Soil Science. Prereq: Consent of advisor and faculty committee.

491 Seminar (1) Current topics in the plant and soil sciences. Techniques of effective oral and written professional presentation; professional ethics; review of literature; assignments for written and oral presenta-tions. See standing. F-SP.

492 Practicum in Agriculture (2-4) Working with agri-cultural-related enterprises in area of student's career interest. May not be used as major requirement device for any course in Plant and Soil Science. Prereq: Consent of advisor and faculty committee.
315 Tennessee Government and Politics (3) Major elements in Tennessee government and politics.

320 State Government and Politics (3) Setting, institutions, and processes of government in the fifty states: generalizations and comparisons, with emphasis on federalism and inter-governmental relations.


322 Minority Group Politics in the United States (3) Content varies. May be repeated with the consent of the department. Maximum 6 hours. (Same as Afro-American Studies 322.)

330 Law in American Society (3) Law as a process through which social problems are addressed in the United States. Examples from case law, legislation, and administrative regulation. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

331 Judicial Process (3) Courts as components of political systems, and public policy formulation through judicial decision making.

340 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, personnel, and financial management and administrative responsibility; the policy-making process, political environment.

350 Political Change in Developing Areas (3) Characteristics and problems of political changes with primary focus on developing areas. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

355 Latin American Government and Politics I (3) Introduction to contemporary conditions in Latin America. (Same as Latin American Studies 355.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

361 Politics in Western Democracies (3) Political culture patterns, and institutions of Western democratic systems. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

365 Introduction to International Relations (3) Resource availability, international economics, international security and peace (imperialism, war, diplomacy, the balance of power, international law and international organization.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

366 United States Foreign Policy Process (3) Processes whereby United States foreign policy are made and implemented, focusing on interaction within federal bureaucracy and the roles of the President, Congress, the press, and public opinion.

370 Contemporary International Problems (3) Analysis of current international events.

374 American Political Thought (3) Major themes and ideas in American political thought related to the development of political institutions, values, and practices. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

387-388 Senior Honors Seminar (3) Required of honors majors. Admission with consent of department.

410 Special Topics in United States Government and Politics (3) May be repeated with consent of department. Maximum 6 hours.

411 Presidency (3) Nature, functions, and processes of the United States presidency. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.


420 Political Attitudes and Opinions (3) Nature, formation, development, and dissemination of politically relevant attitudes and opinions in the American political system.

421 Political Parties and Interest Groups (3) Role of political parties and organized groups in American politics and government.

422 Political Campaigns and Elections (3) Nature of campaigns and elections in the American political process.

430 United States Constitutional Law: Sources of Power (3) An in-depth examination of the powers of the President and Congress, federalism, sources of regulatory authority, and constitutional protection of political and economic rights.


440 Public Management and Human Resources (3) How to mobilize and manage technical and human resources in pursuit of public sector organization goals.

441 Budgetary Process and Financial Management (3) Fiscal planning, budget and expenditure processes in government, their policy and administrative implications.

442 Administrative Law (3) Legal dimensions of administrative power and procedures, and constitutional controls over administrators.

452 Black African Politics (3) Recent evolution and current political environment of Black African nations. (Same as Afro-American Studies 452.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

454 Government and Politics of China and Japan (3) Political setting, structure and political processes in China and Japan. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

455 Latin American Government and Politics II (3) Selected topics on Latin American political dynamics, including confrontational politics, and international explanations. (Same as Latin American Studies 456.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

459 Government and Politics of the Soviet Union (3) Origins and development of the Soviet political system, and selected policy areas. (Same as Russian and East European Studies 459.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

460 Revolution (3) Characteristics, theories, and consequences of revolution with particular focus on left-wing revolutions and movements.

461 Policy Making in Democracies (3) Comparative approach to theory and process of making public policies.

463 Contemporary Middle East Politics (3) Government and movements in the Middle East, their characteristics, bases, and interrelationships.

464 Special Topics in Comparative Government (3) May be repeated with consent of department. Maximum 6 hours.

469 Soviet Foreign Policy (3) Soviet international behavior since 1917 and selected problems of Soviet foreign policy post World War II. (Same as Russian and East European Studies 469.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

470 International Law (3) Nature and development of international law and compliance with it. Particular attention to function of international law in the context of international conflict.

475 Ancient and Medieval Political Thought (3) Major western political thinkers from Socrates to Marsilio of Padua. (Same as Medieval Studies 475.)

476 Modern Political Thought (3) Major western political thinkers from Machiavelli to Marx.

478-488 Senior Honors Thesis and Seminar (3) Required of honors majors; admission with consent of department.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)
PORTUGUESE (811)

111-112 Elementary Portuguese (3,3) Introduction to Portuguese. May not be taken for credit by students with two years of high school or one year college Portuguese. Must be taken in sequence. Language Laboratory required.

211-212 Intermediate Portuguese (3,3) Stresses reading, writing, listening, and speaking of Portuguese to prepare for upper division courses in the language. Must be taken in sequence. Language Laboratory required.

300 Portuguese for Spanish Speakers (3)Accelerated class for beginners of Portuguese with a strong background in another Romance language. Introduction to grammar, reading and culture of Portugal and Brazil. Prereq: 3 hours at 300 level in another Romance language or equivalent.

311 Aspects of Luso-Brazilian Literature (3) Luso-Brazilian literature, with emphasis on contemporary work. Genres may vary. Prereq: 212 or equivalent (Same as Latin American Studies 311).

323 Conversation and Composition (3) Development of speaking, listening and writing skills in Portuguese. Some review of grammar. Prereq: 212 or 300 equivalent.

431-432 Directed Readings in Brazilian and Portuguese Literature (3,3) May be repeated with consent of instructor. (Same as Latin American Studies 431-432).

491 Foreign Study (1-15)

PSYCHOLOGY (830)

110 General Psychology (3) Introduction to primary approaches to the study of human behavior and experience.

117 Honors: General Psychology (3) Enriched introduction with extra readings. Prereq: Consent of instructor.

210 Biological Basis of Behavior (3) Survey of theories and research concerning the role of genetic factors, nervous and endocrine systems, and other biological influences on behavior. Prereq: 110 or equivalent, or consent of instructor.

220 Behavior and Experience: Humanistic Psychology (3) Focuses on phenomenological analyses of individuals and their development in natural environments. Prereq: 110 or equivalent, or consent of instructor.

300 Child Psychology (3) The normal child from conception through infancy, childhood, and adolescence. Physical, cognitive, social, and emotional development. Prereq: 110 or equivalent and 210 or 220, or consent of instructor.

310 Learning and Thinking (3) Survey of theory and findings of research concerning both humans and nonhumans. Prereq: 110 or equivalent and 210 or 220, or consent of instructor.

320 Motivation (3) Survey of theories and related research; discussion of applications. Prereq: 110 or equivalent and 210 or consent of instructor.

330 Abnormal Psychology (3) Individual and environmental factors in deviant and maladaptive behavior; neurotic and psychotic reactions. Contemporary methods of treatment. Prereq: 110 or equivalent and 210 or 220, or consent of instructor.

359 Laboratory in Human Relations (3) Interpersonal relations and communication through structured experiments in small groups. Prereq: 110 or equivalent, and consent of instructor. May be repeated. Maximum 6 hours.

360 Social Psychology (3) Theories, methods, and findings of research concerning individual behavior in a social context. Prereq: 110 or equivalent, and 210 or 220.

370 Ethology and Sociobiology (3) Basic concepts in the evolutionary approach to behavior, including applications to psychology, the social sciences, and the arts. (Same as Zoology 370.)

382 Contemporary Topics in Psychology (3) Current issue or problem, such as architectural psychology, impact of technology, artificial intelligence, or styles and types of human behavior. Prereq: 110 or equivalent and 210 or 220, or consent of instructor. May be repeated. Maximum 6 hours may be applied toward major.

385 Statistics in Psychology (3) Descriptive statistics; logic of hypothesis-testing and statistical inference. Basic concepts of correlation, regression, and linear models. Prereq: Mathematics 110. Not open to students with credit in Mathematics 155, Statistics 201, or equivalent.

395 Methods of Research in Psychology (3) Fundamental principles and techniques of research design and methodology. Choice of research topics in psychology, including systematic observation, experiments, quasi-experiments, and program-evaluations. Focus on both laboratory and natural settings. Prereq: 110 or equivalent, 210 or 220; and 385 or Statistics 201 or Mathematics 115, or equivalent.

396 Laboratory in Psychology (2-3) Introduction to techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experience in the use of laboratory techniques, collection and interpretation of data. Different topic each semester. Prereq: 110 or equivalent, 210, 220, 385, 395. May be repeated. Maximum 9 hours.

399 Supervised Research and Field Work (1-3) Field experience in community-based research and service settings. Prereq: 110 and 210 or 220; and 385 or Statistics 210 or Mathematics 115 or equivalent, or consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major.


409 Group Facilitation (3) Study of theory and technique through supervised experience in small groups. Prereq: 399 or consent of instructor. May be repeated. Maximum 6 hours.


424 Psychology and the Law (3) Psychological aspects of legal systems. Prereq: 110 or equivalent, upper-division standing and consent of instructor.

430 Health Psychology (3) Psychological factors related to health and illness, including stress, personality, and environment. Applications of psychological treatments to physical illness. Prereq: 110 or equivalent, 210.

434 Psychology of Gender (3) Biological, psychological, and social factors in gender. Emphasis on gender roles and stereotypes for behavior and experience. Prereq: 110 or equivalent, 210, 220. (Same as Women's Studies 434.)

440 Organizational Psychology (3) Social-psychological analysis of organizations, emphasizing roles, authority and systems theory. Prereq: 360. (Same as Management 440.)


450 Comparative Animal Behavior (3) (Same as Zoology 450.)

459 Comparative Animal Behavior Laboratory (3) Coreq: 450. (Same as Zoology 459.)

461 Physiological Psychology (3) Nervous system and physiological correlates of behavior. Biological basis of emotion, learning, memory and stress. Prereq: 110 or equivalent, 210, and one year of Biology or Zoology introductory sequences or equivalents.

469 Laboratory in Physiological Psychology (3) Laboratory studies of nervous system and physiological correlates of behavior. Coreq: 461.

470 Theories of Personality (3) Major theories of human personality and their development. Prereq: 220 and 300 or 330.

480 Theories of Learning (3) Classical and current approaches to learning and cognition. Prereq: 310.

482 Topics in Psychology (3) Intensive analysis of special topics, such as Afro-American Psychology or evolution of programs in the community. Prereq: 210 or 220. (Same as Psychology 482B.) Coreq: 385 or consent of instructor. Recommended 385. 395. May be repeated. Maximum of 6 hours may be applied toward the major.

489 Supervised Research (1-9) Prereq: Consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major.

491 Foreign Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major.

492 Off-Campus Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major.

496 Senior Seminar: Great Ideas in Psychology (3) Key ideas that have shaped conceptions of humankind. Exploration of historical development, scientific evolution, and larger social context. Prereq: Consent of instructor and senior standing. Writing-emphasis course. At least two-in-class essay assignments and 3000 words of writing outside the classroom.

PUBLIC HEALTH (839)

300 Introduction to Public Health (3) Aspects of public health including discussion of contemporary and controversial health issues.

305 Communicable and Noncommunicable Diseases (3) Modern concepts of diseases; etiology of common communicable and chronic disease problems including prevention and control. Prereq: 1 year of biological science or consent of instructor. F, Sp

310 Environmental Management and Control (3) Concepts of principles of control of disease-producing agents in our environment. Emphasizes concepts for effective application of control principles to vocational endeavors and/or daily living activities. Includes: Drinking water quality (chemical, physical and biological), waste management (liquid, solid and hazardous), vector control, safe food management, recreational sanitation and safety to include pool management, shelter hygiene (homes, child care, schools, hospitals, etc.), occupational health and safety. F, Sp

400 Consumer Health (3) (Same as Health 400.)

410 Health in the Work Environment (3) Fundamental activities involved in field of industrial health aimed at reducing health problems for 300/00 emphasis. Focuses on workplace health hazards and problems of concern to nurses, medical staff, management, engineers and others involved in industrial health and safety fields. Prereq: Consent of instructor. May not be taken for credit by occupational health concentration (MPH) majors. F, Sp

480 Special Topics (3) Instructional or research topics to be offered each quarter. Prereq: Consent of instructor. May be repeated under different topic. Maximum 6 hours. F, Sp

493 Directed Independent Study (1-3) Individual study of selected issues. Prereq: Consent of instructor. May be repeated. Maximum 6 hours. E

RECREATION AND LEISURE STUDIES (853)

110 Foundations for Leisure Studies and Services (3) Focuses on understanding concepts, principles, and practices relevant to providing leisure services including philosophy, history and theory, programming, economics, recreation leadership, and a survey of leisure services organizations and occupational opportunities. F, Sp

210 Dynamics of Recreation Leadership (3) Theories, practices and concepts as they apply to all roles of recreation leadership.
220 Introduction to Therapies and Medical Terminology (1) Responsibilities of recreation, occupational, physical, horticulture, art, and music therapists. Basic terminology used in medical environment. Sp

250 Specialized Study in Leisure Education (1-3) Focus on understanding attitudes toward leisure. Contribution of leisure to mental and physical health. Creative Cooking, Bike Hikes, New Games. E

290 Field Practice (1-2) Supervised practice in approved leisure services. Each hour of credit requires 25 hours of work in field agency. For recreation students only. Prereq: Permission of instructor. F

310 Leisure Program Development and Evaluation (3) Essential elements and basic principles involved in organization, administration, marketing, evaluation of various program components, and development of program objectives, practical and comprehensive program designs and evaluation for population and facility. Prereq: 320 or consent of instructor. E

320 Analysis of Leisure and Special Populations (3) Principles, concepts, historical development of recreation, therapeutic recreation, leisure services, to special populations. Explanation of legislation, attitudes, barriers to participants, mainstreaming, advocacy, as related to leisure fulfillment. Prereq: 220 or consent of instructor. F

390 Field Practice (1-2) Supervised practice in approved agency offering leisure services. Each hour's credit requires 25 hours of work in field agency. For recreation students only. Prereq: 290 and permission of instructor. E

410 Maintenance and Management of Recreation and Sports Related Facilities (3) Principles for operation and maintenance of recreation and sports related facilities. Each hour of credit requires 25 hours of supervision and management systems and security. Prereq: 110, 310 or consent of instructor. F

420 Principles of Therapeutic Recreation (3) Principles, concepts, and practices of therapeutic recreation including activity analysis, activity and program selection adaptation, individual assessment, treatment plans and professional supervision. Prereq: 330 or consent of instructor. E

430 Organization and Administration of Leisure Service (3) Principles of administration applied to provision of leisure services offered by public, private and commercial recreation agencies. To include personnel management, evaluation, legal authority, introduction to budgeting and fiscal procedures. Prereq: 310 or consent of instructor. F


450 Specialized Study in Leisure Education (1-6) Special interest leisure activities for developing positive attitudes toward leisure. Contribution of leisure to mental and physical health. May be repeated. Maximum 6 hours. E

490 Practicum in Recreation (12) Full time practice in approved recreation agency. Emphasis on supervisory and administrative procedures. Prereq: 290, 390, senior standing. Satisfactory/No Credit only. E

RELIGIOUS STUDIES (863)

101 World Religions in History (3) Introduction to religion in culture and society, including examination of selected religious traditions from China, India, and the Mediterranean world. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

102 The Comparison of World Religions (3) Introduction to religion in culture and society, focusing on cross-cultural interpretation and the treatment of common problems in world religious traditions. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

222 Varieties of Religious Community (3) How different forms of religious communities (cults, tribes, sects, monastic orders, denominations, familial, etc.) have sought to reject, reinforce, transform, ignore, or obliterate the religious cultural and intellectual dynamics of society. 225

235 Issues in Religious Studies (1-3) Introduction to the study of religion through selected themes, problems, controversies, or contemporary issues. Variable content. May be repeated. Maximum 6 hours. E

300 Ways of Understanding Religion (3) Sources and methods used in the study of religion and religions; analysis of approaches to the study of religion. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

310 Religious Myth, Symbol, and Ritual (3) Distinctive modes of religious expression and analysis of theoretical approaches appropriate to their particular social and cultural functions in religions.

320 Religion of Primitive Peoples (3) Religions of selected non-literate peoples. Role of religion in their social and cultural systems. (Same as Anthropology 302.)

305 Contemporary Religious Thought (3) Major issues, issues, and thinkers in twentieth century religion.

309-310 Elementary Classical Hebrew (3,3) Basic elements of Hebrew phonology, script, morphology and syntax. Introduction to basic elements of text, form, and literary criticism.

311 Ancient Hebraic Religious Traditions (3) Development of ancient Israelite and early Jewish traditions with emphasis on the Exodus, the Law, Kingship, and Zion in historical, prophetic and apocalyptic material. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

312 Religious Aspects of Biblical and Classical Literature (3) Ways in which contemporary modes of literary reading appropriate of biblical and classical material. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

313 Religious Aspects of Modern Literature (3) Issues raised for religious inquiry in contemporary literature. Relation of religious and moral considerations to problems of literary analysis; relation between religious language and forms of human expression (symbol, metaphor, myth, image) identified in study of literature. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

315 Reformation Europe, 1500-1650 (3) (Same as History 315.)

316 Topics in Religion and Literature (3) Selected themes that suggest points of intersection between literary and religious life. (Same as Anthropology 314.)

317 Philosophy of Religion (3) (Same as Philosophy 376.)

319 Sociology of Religion (3) (Same as Sociology 319.)

320 Women and Religion (3) Concepts of gender in religious traditions, religious, social and psychological dimensions of gender-related symbols (e.g., the Goddess, God the Father) that shape women's and men's experiences; contemporary feminist discussions of ways in which religious traditions have oppressed women. (Same as Women's Studies 320.)

321 New Testament Origins (3) Influence of pre-Christian Judaism and Greek culture and philosophy on early Christianity. Motivations and guiding concepts which led to the formation of the New Testament. Victory of the Christian Church over the forces of persecution and the Constantine settlement (311 A.D.). (Same as History 321.)

322 Christian Thought (3) Principal forms of Christian thought and institutions through the interpretation of representative thinkers and movements from Augustine of Hippo to Immanuel Kant. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as History 322.)

323 Images of Jesus (3) Major portrayals of Jesus Christ from the first century to the twentieth within the context of the cultural milieu which gave birth to each. Extensive use of slides, video material, recordings, and literature.

329-330 Intermediate Classical Hebrew (3,3) Readings in narrative material from the Hebrew Bible. 330 Readings in poetic and prophetic material from the Hebrew Bible. Prereq: 329 or consent of instructor.

331 Judaism (3) Comprehensive introduction to the historic traditions, culture, and religious institutions of Judaism, and interactions with modern culture.

332 Islam (3) Comprehensive introduction to the origins and early history of Islam, rapid spread as a missionary religion, development of theology and culture, and interactions with modern culture. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

342 Religious Ethics (3) Selected ethical theories and moral teachings of religious communities and thinkers, their action guidelines for individuals and institutions, their application to persons and social problems.

344 Professional Responsibility (3) (Same as Philosophy 344.)

345 Medical Ethics (3) (Same as Philosophy 345.)

351 Introduction to Religion in the United States (3) A representative profile of religion in the United States, organized around selected focal themes or problems.

352 Afro-American Religion in United States (3) Historical and critical examination of formation and development of Afro-American religious thought and institutions in America. (Same as Afro-American Studies 352.)

360 Medical Ethics (3) (Same as Anthropology 373 and Afro-American Studies 373.)

370 Philosophy of Religion (3) (Same as Philosophy 370.)

371 Eastern Religions and Western Thought (3) Comparative study of selected movements, thinkers, and practices of religious traditions, Asian and Western. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

372 Afri-Religious Religions (3) Religions of the indigenous peoples of Africa, the myth, ritual, and symbols and certain cultural and political movements in Africa have been and are being informed by religious sensibilities. (Same as Anthropology 372 and Afro-American Studies 372.)

373 Philosophy of Religion and Religion in India (3) Survey of the development of the major non-Buddhist themes of philosophical and religious thought in India. (Same as Philosophy 374.)

374 Buddhist Philosophy and Religion (3) Survey of the origins of Buddhism in India and further development of Buddhist philosophy and religion in India, China, Korea, Japan, the countries of Southeast Asia, and beyond. (Same as Philosophy 376.)

375 Afro-American Religion (3) A representative profile of religion in the United States, organized around selected focal themes or problems.

377 Comparative Religions in United States (3) (Same as Philosophy 377.)

378 Philosophy of Religion and Religion in India (3) Survey of the development of the major non-Buddhist themes of philosophical and religious thought in India. (Same as Philosophy 374.)

379 Buddhist Philosophy and Religion (3) Survey of the origins of Buddhism in India and further development of Buddhist philosophy and religion in India, China, Korea, Japan, the countries of Southeast Asia, and beyond. (Same as Philosophy 376.)

380 Afro-American Religion (3) A representative profile of religion in the United States, organized around selected focal themes or problems.

381 Comparative Religions in United States (3) (Same as Philosophy 381.)

382 Buddhist Philosophy and Religion (3) Survey of the origins of Buddhism in India and further development of Buddhist philosophy and religion in India, China, Korea, Japan, the countries of Southeast Asia, and beyond. (Same as Philosophy 386.)

383 Afro-American Religion (3) A representative profile of religion in the United States, organized around selected focal themes or problems.

384 Comparative Religions in United States (3) (Same as Philosophy 384.)

385 Buddhist Philosophy and Religion (3) Survey of the origins of Buddhism in India and further development of Buddhist philosophy and religion in India, China, Korea, Japan, the countries of Southeast Asia, and beyond. (Same as Philosophy 386.)

386 Afro-American Religion (3) A representative profile of religion in the United States, organized around selected focal themes or problems.
RURAL SOCIOLOGY (880)

380 Rural Sociology (3) Topics include cultural var-
tibility, reference group theory, social stratification, major 
social institutions, demographic changes, rural commu-
nity and extension, and rural cultural values. Prereq.: Consent of 
instructor. Variable content. May be repeated. Maximum 6 hours.

384 Zen Buddhism (3) Historical, philosophical, and 
meditational aspects of Zen. Special emphasis on motifs of 
emptiness, no-mind, and enlightenment on prac-
tical and the use of the koan. Recommended Prereq.: One or more of the following: 376, 379, 383.

389 Literature of the English Bible (3) (Same as 
Russian 389).

390 Topics in Religious Studies (3) Selected figures, 
themes and issues. Variable content. May be repeated. 
Maximum 6 hours.

411 Modern Religious Philosophies (3) Religious 
implications of major Western thinkers and movements. 
From Nicolas of Cusa to the nineteenth century German 
Idealists. (Same as Philosophy 411.)

412 Classical Indian Systems of Philosophy: The 
Moksha Tradition (3) Selected writings and philosophical 
problems of the traditions of Sanatkhy, Yoga, Vedanta, 
Buddhism, or Jainism. Prereq.: Religious Studies/Phi-
losophy 374 or 376 or consent of instructor. (Same as 
Philosophy 412.)

416 Jesus and Paul Compared (3) Central ideas and 
concepts of each person compared with equivalent 
concepts in the other. Advanced Study of the Gospels and 
Epistles of Paul, involving extensive independent research.

421-422 Elementary Sanskrit I, Elementary Sansk-
rit II (3,3) 421-41. Introduction to the grammar of classical San-
skrit and the reading of epic and classical 
Sanskrit texts. Prereq.: 421 or consent of instructor.

425 Seminar in Western Religions (3) Selected fig-
ures, themes, movements, and problems. Prereq.: Consent of instructor. Variable content. May be re-
peated. Maximum 6 hours.

430 Seminar in American Religions (3) Selected fig-
ures, themes, movements, and problems. Prereq.: Consent of instructor. Variable content. May be re-
peated. Maximum 6 hours.

435 Seminar in Asian Religions (3) Selected figures, 
themes, movements, and problems. Prereq.: Consent of instructor. 
Variable content. May be repeated. Maximum 6 hours.

440 Seminar in Comparative Religion (3) Selected fig-
ures, themes, movements, and problems. Prereq.: Consent of instructor. 
Variable content. May be repeated. Maximum 6 hours.

446 Theoretical Issues in Medical Ethics (3) (Same as 
Philosophy 446).

462-463 Intermediate Sanskrit I/Intermediate San-
skrit II (3,3) 462-Advanced grammatical constructions and 
reading of epic and classical religious and narrative 
texts (e.g., Bhagavad Gita, Moksha Dharma, Ramayana, 
Kathasaritasagara). Prereq.: 422 or consent of instructor. 
463-Continued reading of classical religious and narra-
tive texts. Introduction to classical Sanskrit poetry (e.g. 
Kalidasa's Shakuntala or Meghaduta). Prereq.: 462 or consent of instructor.

469 Readings in Selected Languages Related to 
Religious Studies (1-3) Prereq.: Consent of instructor. May be repeated. Maximum 6 hours.

490 Readings in Research in Religious Studies (3) 
Prereq.: Consent of instructor. May be repeated. Maxi-
mum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

499 Proseminar in Religious Studies (3) For 
advanced students in Religious Studies. Selected readings 
required for majors. Selected topics, e.g., nature and function of myth in 
religion, problem of evil, transcendence, theories of re-
ligion, may examined. Prereq.: Consent of instructor. 
Considered a discipline- 
volved in study of religion. Prereq.: Consent of instructor. 
May be repeated. Maximum 6 hours.

RUSSIAN AND EAST EUROPEAN STUDIES (887)

301-302 Introduction to Russian Literature (3,3) 
(Same as Russian 301-302).

321 Works of Dostoevsky in English Translation (3) 
(Same as Russian 321).

322 Works of Tolstoy in English Translation (3) 
(Same as Russian 322).

326 Special Topics in Russian Literature in English 
Translation (3) (Same as Russian 326).

340-341 History of Russia (3,3) (Same as History 340-
341).

375 Geography of the Soviet Union (3) (Same as 
Geography 376).

393 Marxism (3) (Same as Philosophy 393).

401-402 Advanced Russian Grammar, Conversation 
and Composition (3,3) (Same as Russian 401-402).

410 Selected Topics in Russian and East European 
Studies (3) Interdisciplinary seminar on a selected topic 
using a comparative approach. Requires use of Russian 
language sources, regardless of country, and a 
paper of 25-30 pages. Writing-emphasis course: at least one 
in-class essay examination and 3000 words of writing 
outside the classroom.

451-452 Senior Seminar (3,3) (Same as Russian 451-
452).

459 Government and Politics of the Soviet Union (3) 
(Same as Political Science 459).

469 Soviet Foreign Policy (3) (Same as Political Sci-
ence 469).

SAFETY (890)

400 Directed Independent Study (1-3) Individual iden-
tification and study of safety or safety education prob-
lems. Specific proposal must be made to instructor 
before registration. May be repeated. Maximum 12 
hours. Prereq.: Consent of instructor.

441 Driver and Traffic Safety Education (3) Prepara-
tion of teachers of driver education in schools and 
colleges. Students are required to teach at least one 
non-driver. Valid driver's license required. 2 hours and 2 
tabs. E

442 Advanced Driver and Traffic Safety Education (3) 
Preparation of teachers of driver education in schools and 
colleges. Students are required to teach at least one 
non-driver. Valid driver's license required. 2 hours and 2 
tabs. E

443 Sports and Recreational Safety (3) Accident pre-
vention and injury control in sports activities; philosophy of 
sports safety; human environmental factors and inter-
relationships in sports injury and control; decision 
problem-solving strategies; and contributions of sports 
medicine to safety. 3 hours and 2 tabs. Sp

452 General Safety (3) Principles, practices, and proce-
dures in general safety. Safety problems in school, 
traffic, recreation, industry, home, and other public ar-
E

470 Special Topics (1-3) Study in selected disciplinary 
or professional areas of safety. May be repeated. Maxi-
mum 12 hours.

SOCIAL WORK (905)

200 Introduction to Social Work (3) Emergence of the 
social work profession; professional mission; knowl-
edge, skills, and values; practice settings; client groups; 
helping services, career patterns, practice methods. 
Designed to assist students to consider their ability for 
careers in social work.

250 Social Welfare (3) Development, structure and 
function of the social welfare institution. Analysis of 
social welfare programs and impact of the institution on 
society.

310 Social Work Research (3) Scientific method and 
research strategies to evaluate one's practice and/or 
social service delivery. Knowledge of statistical tech-
niques required. Prereq.: Sociology 392 or Psychology 
385, Coreq. 389.
312 Social Work Practice I (3) Knowledge, values, and skills for entry level generalist practice in a variety of settings. The social work process; process, different client systems, ethnic-sensitive assumptions, and the worker's regard for person-environment configuration; Laboratory. Prereq: Initial progression; Pre or Coreq: 314.

313 Social Work Practice II (3) In-depth study of generalist practice with individuals and families. Practice roles, value dilemmas, and working with people of diverse backgrounds. Concurrent skills laboratory. Prereq: Initial progression; 312; Coreq: 310 and 380.

314 Human Behavior and the Social Environment (3) Intersubjectivity of biological, social, cultural, environmental, and psychological factors in human behavior. Person-in-environment over the life span with special attention to diversity, impact of racism, sexism, and other sociocultural factors. Integration of knowledge into a social work practice perspective. Prereq: Initial progression.


491 Foreign Study (1-15) Prereq: Consent of instructor.

492-496 Field Practice (1-15) Prereq: Consent of instructor.

493 Independent Study (1-15) Prereq: Consent of instructor.

SOCIOLOGY (915)

100 General Sociology (3) Major concepts and theoretical approaches of contemporary sociology with emphasis on culture, socialization, social organization, and social stratification.

110 Social Problems and Social Change (3) Increasing inequalities and growing social conflict, particularly as such phenomena as racism, sexism, violence, crime, inequality, lifestyle preferences, and environmental abuses become a part of the social environment.

120 Sociological Analysis (3) Select set of contemporary issues emphasizing theoretical and logical structure of the issues and development of data needed to enter into informed debate on the issues. Students are expected to develop their own analytical arguments. Prereq: English 102 or consent of instructor.

200 Interpersonal Communication (3) (Same as Speech 220).

210 Sociological Analysis (3) (Same as Speech 320).

291 Sport in American Society (3) (Same as Physical Education 291).

310 American Society (3) Institutional organization of contemporary American society with particular attention to major social values. Writing-emphasis course: at least one in-class essay examination and 3000 words of written work in the classical style.

311 Family (3) Theoretical frameworks and methodological approaches; their application in the sociological study of past and present family forms.

319 Sociology of Religion (3) Interrelationship of society, culture, and religion. (Same as Religious Studies 319).

320 Interpersonal Communication Processes (3) (Same as Speech 320).

321 Sociological Theory (3) Survey of contemporary issues and problems with emphasis on their historical development and their importance for the field. Students are required to write critical appraisals of the topics addressed.

330 Computers and Society (3) History of computing and computer systems; capabilities of computer applications in various fields; social, cultural, and economic impacts.

331 Sociological Research (3) Selected issues in philosophy of social science, research design, sampling, methods of data collection, and interpretation. Requires written research report.

336 Elementary Social Statistics (3) Statistics used in social research; elementary descriptive techniques: measures of central tendency, dispersion; elementary statistical inference; tests of significance for parametric and nonparametric data. Prereq: Full progression.

340 Class Structure (3) Class structure and conflict: causes and consequences of structured social inequality. Emphasis on the United States. Writing-emphasis course at least one in-class essay examination and 3000 words of writing outside the classroom.

343 Race and Ethnicity (3) Social sources of racial and ethnic cleavages and social, economic, and political consequences, and the interaction of race and ethnicity in the United States. (Same as Afro-American Studies 343.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

344 Power and Society (3) Sociological analysis of the formation and application of nation state policies. Examination of who gets what, why and how. Emphasis on contrasting explanations of the control of the state and the relative autonomy of the state.

345 Collective Behavior and Social Movements (3) Collective phenomena leading to social change: response to disaster, popular crazes, and social protests and development, organization, and function of social movements. Emphasis on American cases.

346 Sociology of Occupations (3) Occupations and professions as interest groupings in work settings and the wider community.

350 Criminology (3) Systemic inquiry into alternative definitions of crime, statistical distribution of different types of crime, and responses to crime, primarily by the police.


355 Deviance and Social Control (3) Deviant, their lifestyles, social organization, and social control.

360 Environment and Resources (3) Relationship between scarcity of natural resources and changes in societal beliefs and social structure. Topics include social and physical limits to growth and collective action problems.

363 The City (3) The revolutionary impact of cities and city life seen from an ecological perspective. The organization of life in cities into communities, neighborhoods, and other territories. Urban planning and problems.

370 Social Psychology (3) Social psychological analysis of social behavior emphasizing its acquisition, its enactment, and its dynamic nature.

375 Gender in Society (3) Exploration of gender in society utilizing various sociological perspectives with special focus on societal, social structural, social roles, and gender identities. (Same as Women's Studies 375.)

380 Rural Sociology (3) (Same as Rural Sociology 380).

400 Special Topics (3) Variable topics. Scope of subject matter determined by students and instructor with consent of department. Prereq: Determined by department. May be repeated. Maximum 15 hours.

405 Sociology of Sport (3) Social meaning, organization, and process of sport. Prereq: 291 or consent of instructor. (Same as Physical Education 405.)

413 Formal Organization (3) Organizational models, typologies, and the control of authority; communication, interpersonal relations in work settings; organizational change.

414 Sociology of Health Care (3) Organization of health care facilities, staff-patient relationships, demographic characteristics, and prevalence of disease.

415 Sociology of Aging (3) How roles and status changes with age in relation to the major social institutions, the impact that the rapidly increasing number of older people have on society, the effect of society on older people.

442 Comparative Poverty and Development (3) A critical examination of patterns of poverty and inequality in developing areas of the world, along with a review of major sociological theories which attempt to explain differences in patterns of development. (Same as Afro-American Studies 442.)

446 The Modern World System (3) Critical examination of the capitalist world-system as a social system, its coherence, boundaries, regions, member groups, cleavages, and patterns of behavior and stratification, why, and how in the global political economy. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

451 Criminal Justice (3) A critical assessment of the criminal justice apparatus and its components. Brief examination of the police, with most of the emphasis on the criminal courts and institutions and programs such as the prison, probation, and parole. Analysis of their operation and impacts. Prior completion of 350 is recommended.

455 Society and Law (3) How laws and legal processes are affected by social change, the social impact of legal sanctions, relations between law and social justice. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

459 Organizational and Corporate Crime (3) Crime and deviance committed by organizations. Case studies of corporate and organizational crime, the organizational dynamics of crime, and theories of corporate crime, and organized responses to this type of crime by governmental regulatory agencies.

462 Population (3) Demographic factors and social structure; trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

464 Urban Ecology (3) The relation of humans to their urban environment with emphasis on conservation and the use of appropriate technology. (Same as Urban Studies 464.)

471 Sociolinguistics (3) (Same as English 471 and Linguistics 471)

480 Diffusion of Agricultural Technology (3) (Same as Rural Sociology 480.)

491 Foreign Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

SPANISH (924)

111-112 Elementary Spanish (3,3) (Introduction to Spanish. May not be taken for credit by students with two years of high school or one year college Spanish. Must be taken in sequence. Language Laboratory required."

117-118 Honors: Elementary Spanish (3,3) An introductory course for students with a special interest in
Spanish. Ideal for students with knowledge of another foreign language, or for those who have had some previous (but not extensive) experience with Spanish. An enriched program with emphasis on basic skills of listening, speaking, writing, and reading. Special attention given to those skills needed for communication with Spanish speaking families and the workplace as well as to contemporary life situations. Grading scale is: A-F. Graded pass/fail only. Grade point average will be calculated. Students with two years of high school Spanish or one year of college Spanish may not take the course for credit. Courses must be taken in sequence. Students receiving a grade of A or B in 118 will receive credit for 211. Credit cannot be received for both 211-212 and 221-222.

The Spanish Language and World Business (1)
The course will examine the major elements of the course, with emphasis on structured environments, Spanish-speaking populations, and cultures. The course will meet two times per week and will not count toward the College of Liberal Arts intermediate-level foreign language requirement for elective credit only.

Intermediate Spanish Transition (3)
A thorough study of the fundamentals of Spanish for those who have completed two or more years of high school study but whose placement test results indicate that they are not prepared for the 211-212 sequence. Special emphasis on developing communicative proficiencies in Spanish. The course will meet five times per week and will not count toward the College of Liberal Arts intermediate-level foreign language requirement for elective credit only.

211-212 Intermediate Spanish (3,3) Reading, writing, listening, and speaking. Comprehensive course intended for students who have completed two or more years of high school Spanish. Incoming freshmen are admitted on the basis of a diagnostic test, high school average and performance on the ACT. Advanced students normally held to a maximum of 15 students. Students follow enriched program with continuing emphasis upon speaking ability and an introduction to reading literary selections. Students who earn an A or B in 218 receive credit for 300. Prereq: 111-112 or equivalent.

Spanish Literature in English Translation (3)
From the Golden Age, Don Quixote, the picaresque novel, and St. John of the Cross, to the modern, Unamuno, Lorca, Ortega, and Cela. No foreign language or major credit. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

Spanish American Literature in English Translation (3)
A study of the Latin American continent through a selection of fiction such as Borges, Fuentes, Marquez, and Assurias. No foreign language or major credit. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

Spanish Transition (3) Development of linguistic skills necessary for satisfactory work in courses above 300. Recommended for students who would benefit from additional training beyond 218 in the skills of speaking, reading and writing Spanish. Particular attention for preparation to read Hispanic literature and other cultural achievements of the Spanish people from the origins of their civilization until today. Prereq: 311, 312 or equivalent. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

Cervantes (3) Emphasis upon selections from Don Quixote and study of the shorter Novelas ejemplares. Prereq: 311, 312 or equivalent.

Masterpieces of Spanish Literature (3) Selections from both the Golden Age and the modern period of works of all genres. Prereq: 311, 312 or equivalent.

Survey of Spanish Literature (3,3) Survey of Spanish literature through the Golden Age. 430-Spanish literature since 1700. Prereq: 311, 312.

20th Century Hispanic Theatre (3) Emphasis on major 20th century Spanish American dramatists. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 426.)

Capstone Colloquium in Spanish (3) An integrative experience focusing on a broad range of issues and topics that affect much of the Spanish-speaking world and also involve those who specialize in Hispanic Studies. Prereq: 311, 312 or equivalent. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

Capstone Tutorial in Spanish (1) Independent study project supervised closely by a faculty member. Prereq: Capstone Colloquium in Spanish. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 426.)

Latin American Civilization (3) Latin America's history, literature, and political institutions. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 471.) Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

Masterpieces of Spanish American Literature (3) Selected works by major Spanish American writers. Prereq: 312. Prereq: 311, 312 or equivalent. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

Survey of Spanish Literature (3) History of the Spanish Language from its inception to the present. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 473.)

Survey of Spanish Literature (3) An overview of the history of the Spanish Language from its inception to the present. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 473.)

Social Protest Literature of Latin America (3) Literature as a means of exposing social ills that have traditionally beset Latin America. Among major themes: indigenismo, black literature, women writers, the role of the writer in Latin American society. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 479.)

Foreign Language (1-15)

SPECIAL EDUCATION (933)

270 Special Education Seminar (1) Introduction to the field; career goals and objectives including observation in the field.

331 Articulation Disorders (3) Prereq: Admission to Teacher Education Program. (Same as Audiology and Speech Pathology 331.)
320 Interpersonal Communication Processes (3)
Social dimensions of interpersonal communication and relationships. (Same as Sociology 320.)

330 Group Communication (3)
Small group decision-making, group leader behavior, group influence, and group cohesion.

350 Communication Theory and Research (3)
Survey of contemporary communication theories, their applications in social and psychological processes by which theories are created, tested, and changed.

360 Topics in Communication and Society (3)
Content varies. Studies in social function of such communication forms as posters, speeches, songs, plays, demonstrations. May be repeated with consent of department. Maximum 6 hours.

370 Evidence and Argumentation (3)
Concept of evidence in public controversies, uses and sources of evidence, and conditions affecting credibility.

380 Oral Interpretation of Prose Literature (3)
Individual oral interpretative techniques of fiction and non-fiction; ensemble interpretation including readers and chamber theatre forms. Prereq: 390 or consent of instructor. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

385 Oral Interpretation of Poetry (3)
Individual and group performances of poetry. Prereq: 390 or consent of instructor. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

400 Topics in Speech Communication (3)
Variable content course offering opportunity to offer subject matter not covered in an existing course. Topics, scope of subject matter, and prerequisites to be determined by Department. Maximum 6 hours. Major credit limited to 3 hours.

420 Communication and Conflict (3)
Communication as a significant factor in the development, management, and resolution of conflicts in the personal, small group, organizational, or societal levels.

440 Organizational Communication (3)
Organizational setting and those variables of the communication process that affect the quality of human interaction both within and outside the organization.

445 Internship (1-3)
Supervised career-related experiences using Speech Communications theories and techniques in government and for-profit or non-profit organizations, culminating in a written and oral report. Reserved for Junior/Senior level majors with at least a 3.0 GPA, or by special permission of Internship Director. S/NC only. May be repeated; maximum 6 hours. Major credit limited to 3 hours.

450 History of Rhetorical Theory (3)
Western rhetorical theory from Plato to the present.

465 Studies in Rhetorical History and Criticism (3)
May be repeated. 180 credit hours.

466 Rhetoric of the Women's Rights Movement (3)
Historical and critical study of public address in campaign for women's rights from the 1830's to present. Same as Women's Studies 466. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

469 Freedom of Speech (3)
Historical and philosophical perspectives on freedom of expression; legal issues in free speech controversies in the U.S.

470 Theories of Argumentation (3)
Conceptual bases of argumentation from classical to contemporary theories. Prereq: Consent of instructor.

491 Foreign Study (1-15)
See description of major concentration.

492 Off-Campus Study (1-15)
See description of major concentration.

493 Independent Study (1-15)
See description of major concentration.

STATISTICS (962)

201 Introduction to Statistics (3)
Descriptive statistics, including bivariate trends and time series analysis; concepts of probability and probability distributions, binomial and normal distributions, linear correlation and regression, estimation and hypothesis tests for means, contingency tables. Prereq: Mathematics 121. E

221 Sampling Techniques (2)
Procedures used in probability sampling from finite populations. Development of estimators and standard errors associated with sampling schemes. Prereq: Consent of instructor. Determination of sample size. Prereq: 201. E


252 Probability and Statistics for Scientists and Engineers II (3) Hypothesis testing. Introduction to statistical process control, reliability, analysis of variance. Simple and multiple linear regression. Prereq 251 and a working knowledge of the UTCC VAX system, or Coreq. 261 Sp.

261 Computing for Data Management and Analysis (3)
Use of computer operating systems and packaged programs for managing data files and statistical analysis. Prereq. 251. Sp.

302 Statistical Methods (3)
Linear regression and correlation. Multiple regression and correlation. Analysis of variance and covariance; categorical data. Emphasis on data analysis and interpretation. Not credit toward a degree in mathematics. Major credit not available for credit to students with credit in 461. Prereq: 201 or equivalent. E

365 Industrial Statistics (3)

411 Introduction to Statistical Computing (3) Use of computer operating systems and packaged programs for statistical analysis and file management. Not acceptable for credit for statistics majors. Prereq: 201 or 251. E

461 Applied Regression Analysis (3)


471 Random Processes and Probability Models (3) Functions of random variables, multivariate distributions, additional expectations, waiting time distributions, random processes, Markov chains, queuing theory. Prereq. 251: F.

481 Special Topics in Probability (1-3) Topics in probability and stochastic processes. Prereq: Consent of the instructor. May be repeated. Maximum 6 hours.

483 Special Topics in Statistics (1-3) Topics vary. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

485 Principles of Statistical Process Management (3) Control charts and other statistical techniques applied to management of business processes. Prereq: Consent of department head. E

486 Undergraduate Seminar (1) Directed readings and active participation in the Department's undergraduate seminar program. Prereq: Senior standing and consent of Chairperson of Statistics Department Undergraduate Affairs Committee. Satisfactory/No Credit only. May be repeated. Maximum 2 hours.

492 Internship (1-6) Supervised off-campus experience in application of statistical principles and methods in business, industry, government, culminating in a written and oral report. Prereq: Permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. Satisfactory/No Credit only. May be repeated. Maximum 6 hours.
497 Honors Thesis (6) Undergraduate thesis culminating in a written report and oral defense. Prereq: Invitation of the Department Undergraduate Affairs Committee. Satisfactory/No credit only.

TECHNOLOGICAL AND ADULT EDUCATION (967)

161 Graphic Communications (3) Drafting as a means of conveying ideas in the field of graphic and multi-view drawing, conventional practices, pictorial techniques and applications, sheet metal development and auxiliary view drafting. Sketching, dimensioning, board work, and CAD. F

163 Power and Energy Systems (3) Automotive technology and internal combustion engines. Includes various prime movers, methods of utilization, distribution, and transmission of power. Engine tune up and overhaul and small engine repair and restoration treated through practical and applied laboratory experiences. F

165 Woods Technology (3) Processes, tools, equipment, and products of the woodworking industry. Importance of safety and using hand tools and basic machinery.

166 Metals Technology (3) Processes, equipment, materials and products of metal working industries. Processes in machine, foundry, forging, heat treatment, sheet metal and welding.

201 Field Experience in Vocational Technical Education (1) Field experience in public school programs in distributive education. May be repeated. Maximum 3 hours. Satisfactory/No Credit only. E

230 Typewriting and Shorthand Proficiency (3) Proficiency credit for students who certify in typewriting and office technology who have typewriting and/or shorthand courses. Prereq. Department approval. E

261 Architectural Graphics (3) Graphical representation and architecture. Principles of construction, working drawings for a residential dwelling, and CAD techniques. Prereq: 161 or consent of instructor. Sp, F

263 Basic Electricity/Electronics (3) Operation and characteristics of electrical systems and devices; includes general DC/AC theory and application, use of electronic measuring instruments, circuit analysis, introduction to semi-conductors and various laboratory experiences that involve the function of different types of circuits. Prereq: 163 or equivalent. E

265 Construction Technology (3) Residential construction, including site selection, foundations, framing, roof, interior and exterior finishes. Prereq: 165 or consent of instructor. Sp

266 Machine Tool Processes (3) Function, care, set-up, operation and theory of basic machine tools. Prereq: 166 or consent of instructor. Sp

336 Micro Business Applications (3) Operating and programming microcomputers. BASIC language is used and programming examples are oriented in business and office technology who have typewriting and/or shorthand courses. Prereq. Department approval. E

352 Practicum in Industrial Education (1-3) Updating and upgrading experiences in non-traditional settings for technical field experience in business and industry. Maximum of 6 hours. Satisfactory/No Credit only.

354 Job Analysis Techniques and Curriculum Development (3) Instructional materials development utilizing the techniques of job analysis.

355 Microcomputer Applications in Technology (3) Use and applications of microcomputers for education, business, and industry. Implications and impact of microcomputers on occupations and everyday living. Open lab for required hands-on experience in operations and programming.

356 Lab Organization, Management, and Safety (3) Principles of classroom and laboratory organization, management, safety, and management in vocational and technical laboratories.

361 Graphic Reproduction Processes (3) Principles of printing, duplicating, photography, and other forms of graphic communication; includes laboratory experience in SLR camera applications, camera copy preparation, line and halftone photography, layout, stripping, platemaking, and offset presswork. Prereq: Admission to Teacher Education Program.

363 Applications of Integrated Electronics (3) Electrical circuit analysis and IC applications; including amplifiers, operational circuits and timer circuits; coverage of the basic principles and applications of digital electronic circuits through lecture and laboratory experiments and projects. Prereq: Consent of instructor and admission to Teacher Education Program.

365 Manufacture of Wood Products (3) Design and construction of case and carcass furniture and built-in units. Emphasis of use of wood as material. Prereq: 165, Sp

386 Manufacturing Technology (3) Manufacturing system, including research and development of products, preparing to produce, producing, marketing, and servicing products. Prereq: 165, 166, and admission to Teacher Education Program.

372 Job Analysis (3) Applied techniques of job analysis to determine job descriptions, training requirements, performance standards and sequence of training technical personnel.

373 Instructional Techniques in Industrial Education (3) Application of learning theories, motivational techniques, and instructional strategies to technical and related subjects.


401 Utilization of Community Resources (3) Strategies of developing linkages between educational and the private sector through advisory committees, councils and working partnerships. Development and management of public relations programs. Prereq: Three years of teaching experience.

410 Pre-Student Teaching Seminar (1) Objectives and policies of the student teaching program. Must be completed the term immediately preceding student teaching. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp

413 Special Topics in Technological and Adult Education (1-3) Topics to be assigned. May be repeated. Maximum 6 hours. E

414 Individual Study in Technological and Adult Education (3) Prereq: Consent of supervising instructor with approval form filed in the office of the department head. May be repeated. Maximum 8 hours. E

415 Coordination Techniques (3) Necessary procedures, duties and responsibilities to implement, maintain, and evaluate a successful cooperative education program.

420 Introduction to Adult Education (3) Breadth of adult education activities and the diversity of adult clientele, including opportunities for professional practice apart from traditional instructional settings.

421 Adult Education Program Design and Management (3) Principles of program design and special application to adult training programs.

422 Adult Development and Training (3) Application of adult development concepts to design and management of training programs for adults. Sp

430 Principles and Organization of Business Marketing Education (3) Historical background and development needs. Principles of vocational education in business and marketing, curriculum implications, establishing, operating, and evaluating the programs. Prereq: Admission to Teacher Education Program.

431 Word Processing and Office Technology (3) Word processing concepts and applications, methodology for teaching word processing and machines. Prereq: Advanced typewriting skill and permission of instructor. Sp

432 Methods and Materials in Business and Marketing Education (3) Teaching techniques, aids and evaluation in subject matter fields. Prereq: Admission to Teacher Education Program.

433 Methods in Office Technology (3) Materials, methods, evaluation procedures, and recent research in typewriting, shorthand, and other office procedures.

434 Methods in Accounting and Data Processing (3) Methods, materials, evaluation procedures, and recent research in accounting and data processing. Automated accounting systems introduced. Prereq. Admission to Teacher Education Program.

436 Supervised Occupational Experience (3-9) Practical field experience in business and marketing settings under the supervision of practitioner and departmental representative. May be repeated to a maximum of 9 credits.

439 Areas of Marketing (3) Marketing, personnel development, operations and management as these affect the instructional leadership program in marketing education.

440 Special Topics in Business and Marketing Education (1-3) Topics to be assigned. May be repeated. Maximum 9 hours. E

450 Seminar in Industrial Education (1-3) Current issues, innovations, problems, and other topics associated with technical programs. May be repeated. Maximum 6 hours. A

454 Training Aids Development (3) Study and preparation of instructional aids and non-print media commonly used by technical instructors and trainers. F

455 Performance-Based Evaluation (3) Assessing the effectiveness of training through the development of performance-based measures; evaluation of incumbent worker job performance. Sp

456 Organization and Operation of VICA/HOSA (3) Planning, organizing and implementing youth-club activities in vocational-technical programs.

459 New Developments in Industrial Education (3) Developments, significant problems and recent trends in industrial education presented by coordinating instructors from the major industrial sector. Prereq: Consent of instructor. May be repeated. Maximum 6 hours. E

464 Methods and Mediation in Technology Education (3) Methods and media used in teaching technology education in the secondary public schools. Prereq: Admission to Teacher Education Program.

465 Materials and Processes (3) Materials relative to specifications, testing, and methods to classify and categorize materials. Determining correct processes to match industrial product needs. Prereq: Consent of instructor.

466 Course Construction in Technology Education (3) Selection and arrangement of course content. Planning, instructional objectives, project/product selection, assignments and evaluation. Prereq: Admission to Teacher Education Program.

469 Plastic Technology (3) Characteristics and applications of thermoplastic and thermosetting materials. Plastics production equipment related product design and production of plastic components. Prereq: 165 and admission to Teacher Education Program.
470 Training for Human Resource Development (3) Orientation of training; organizational roles and functions performed and the needs, costs, benefits, and productivity of training systems. Prereq: None.

471 Principles of Supervision (3) Problems of motivation, interpersonal relationships and leadership. Prereq: 470 or permission of instructor.

479 Internship in Human Resource Development (5-10) Assessing, planning, implementing, and evaluating the effectiveness of training programs in an industrial setting. May be repeated to a maximum of 10 semester hours. Satisfactory/No Credit only. E

481 Student Teaching: Grades 7-12 and Adults (10) Full-time experience in classroom and laboratory teaching and related responsibilities under the direct supervision of a master teacher in the content area. Satisfactory/No Credit only. Prereq: Admission to Teacher Education Program.

TEXTILES AND APPAREL (971)

101 Apparel Construction (3) Garment construction focused on decision making and time management; pattern alterations, fitting and quality of construction. Not available for credit for departmental majors. E, Sp

120 Textiles I (3) Consumer-oriented textiles: fibers, fabric construction and finishes in relation to use, serviceability and care of apparel and household fabrics. E

230 Apparel Evaluation (3) Analysis of construction techniques; appearance, quality and relationship; elements and principles of design in relation to garment construction. Prereq: 120. F

232 Design Analysis (3) Apparel design analysis based on flat pattern, draping and drafting techniques; comparison of methods for style variations and costing of garments. Sp

310 Principles of Merchandising (3) Buying practices, procedures, problems, activities, techniques, underlying concepts fundamental to merchandising. Prereq: Accounting 201. F

320 Textiles II (3) Recent developments in fibers, fiber structure, yarn processing, yarn structure and fabric construction: dyeing, finishing and printing; textile performance and evaluation; legislation and standards. Prereq: 120, Chemistry 100-110 or 120-130. F

330 Apparel Production (3) Industrial methods in garment production; focus on stages of production, plant layout, costing and quality control. Prereq: 230. F

331 Computers in Merchandising and Manufacturing (3) Computers aid designer and other computer applications for management, merchandising, design, and manufacturing. Hands-on experiences. Field trips. Prereq: HE 210 or consent of instructor. F

332 Retail Merchandising Applications (3) Foundations and applications of retail operational methods. Prereq: Accounting 201.


345 Fashion in History (3) Development of apparel styles in western civilization from middle ages to present; factors associated with origin, adoption and abandonment of cloth including historic, social and economic settings. F

350 Consumers in the Market (3) Consumer decision-making and problems in the domestic and international marketplace; consumer issues and problems, emphasis on consumer choice, information, consumer protection and current issues. Prereq: Economics 201. Sp

390 Introduction to Field Experience (1) Interviews, placement and planning for field experience. Prereq: Approved application for field experience.

410 Retail Management (3) Retail sector of economy from management perspective; decision-making in retail operations: promotion, pricing, financial planning and control. Computer applications, product mix-strategy. Prereq: 2 semesters Marketing. Sp

415 Fashion Promotion (3) Advertising and special purpose media used to promote fashion merchandise; evaluation of retail sales promotion activities. Sp

420 Textile Microscopy and Physical Testing (3) Microscopic techniques applied to textile fibers, yarns and fabrics; standard methods and equipment used in physical testing. Prereq: 320. F

422 Textile Fiber Chemistry (3) Chemistry of textile fibers and structures, construction, production and reactions; implications relating to dying and finishing of fabrics. Prereq: Chemistry 350. Sp

450 Textile and Apparel Economics (3) Economics of the United States textile, apparel and fiber industries: emphasis upon production, distribution, institutions, impact upon consumers; international and domestic issues. Prereq: 350 or consent of instructor. Sp


492 Field Experience in Merchandising, Apparel or Textiles (3) Off-campus, cooperative program with business establishments which merchandise or manufacture textiles and/or apparel. Prereq: 390. Coreq: 490. F

493 Directed Study (1-3) Individual problems for Junior and Senior students with special interests in textiles, merchandising or apparel. Prereq: Junior or Senior standing, consent of instructor. E

495 Special Topics (3) Topics in textiles, merchandising, and/or apparel. May be repeated. Maximum of 9 hours. Prereq: Junior or Senior standing, consent of instructor. E

497-498 Honors: Textiles and Apparel (3) Individual problems for Junior and Seniors showing special ability and interest in textiles and apparel. Prereq: Recommendation of Department Head. E

THEATRE (976)

100 Introduction to Theatre (3) Understanding theatre: thought, philosophy, aesthetics, and production practices. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

210-211 Survey of World Drama (3,3) 210-Includes Greek, Roman, Medieval, Elizabethan, and Eastern forms of drama. 211-Covers 19th century, as well as realism through contemporary drama. Emphasis on social significance, production participation will be required. Prereq: 220-221. F

220-221 Acting (3,3) 220-Basic Acting techniques. 221-Further exploration and development of acting techniques through exercises and beginning scene work. Prereq: 220. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

222 Value and Diction (3) Voice production; attention to individual speech problems.

245 Basic Stage Costume (3) Costume design and construction; basic theory and technique. Production participation required. Prereq: 100.

250 Introduction to Scenery Technology (3) Techniques of scenery and stage properties construction. Production participation required.

260 Fundamentals of Lighting and Sound Production (3) Survey of practical information on electricity, physics, psychology, and instrument engineering as it relates to stage lighting and sound production. Emphasis on hands-on skills in labs. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

310-311 History of the Theatre (3,3) 310-Drama in performance, with particular emphasis in theatre architecture, scene design, and acting styles Antiquity to Renaissance. 311-The European and modern theatres.

312-313 History of the American Theatre (3,3) Development of theatre in the United States, from the Aryan indigenes to modern times, production participation will be required. Prereq: 250. Graduate credit available to theatre M.F.A. students only.

320 Advanced Acting (3) Characterization and scenic study in realistic plays. Prereq: 220-221 and consent of instructor. May be repeated. Maximum of 6 hours.

340 Introduction to Costume Design (3) Development of research and rendering skills. Prereq: 245 or consent of instructor.

345 Costume Construction (3) Study and practice of costumes in costume construction. Includes stitching, cording, embroidery, and crafts. Production participation is required.

355 Introduction to Scene Design (3) Introduction to art and craft of scenic design.


401 Principles of Theatrical Design (3) Fundamental principles of design; visual and structural relationships. Projects will be assigned to develop understanding and personal projects. Prereq: Consent of instructor.

409 Stage Make-Up (2) Problems in make-up design and application, character analysis, physiognomy and characturo. Prereq: 100.

410 Dramatic Theory and Criticism (3) Theatrical aesthetics from Aristotle to the present.

420 Special Studies in Acting (3) Content varies. Experiences in selected concentrated areas such as styles, techniques, approaches, e.g., Shakespeare, movement, humor. Prereq: 320 and consent of instructor. May be repeated. Maximum 9 hours.

428 Applied Phonetics (3) Development of skills in transcription and reproduction of the principal varieties of the English Language in North America and Great Britain and selected foreign dialects in North America. Prereq: Consent of instructor.


445 Advanced Costume Construction (3) Advanced construction technique, such as tailoring, vacuum forming, plastic molding, and cobbling. Prereq: 345 or consent of instructor.

446 Costume Patternning (3) Draping patterns for period costumes. Includes corsetry and the study of historic patterns 1500-1900. Prereq: 345 or consent of instructor.

450 Advanced Scenery Technology I (3) Study and practice of theatre woodworking; production participation will be required. Prereq: 250. Graduate credit available to theatre M.F.A. students only.

451 Advanced Scenery Technology II (3) Study and practice of metalworking and plastics for theatrical production, production participation will be required. Prereq: 250. Graduate credit to theatre M.F.A. students only.

452 Advanced Scenery Technology III (3) Study and practice of stage rigging for theatrical productions; production participation will be required. Prereq: 250. Graduate credit available to theatre M.F.A. students only.

454 Scenery Painting (2) Introduction to materials, techniques, and principles of the craft. Emphasis on gaining skill and understanding through studio experience. Prereq: Consent of instructor.


460 Advanced Lighting and Sound Technology (3) Projects in lighting and sound coordination. May include opera, dance, musical theatre, and "rock videos". Final project will be live productions. Emphasis on developing artistic sensitivity and subtleties in control. Prereq: 260.

461 Special Effects in Lighting and Sound (4) Projects in special effects including creative application of technology. Problem solving, drafting, and execution of effects for production emphasized. Production participation required. Prereq: 260 or instructor's permission.

462 Advanced Lighting Design (3) Advanced problem solving in lighting design and theory including areas such as lighting musical theatre, opera, and dance. Prereq: 362 or consent of instructor.
463 Sound Design (3) Sound design for the performing arts. Review of equipment and acoustical factors that affect sound production. Sound designs will be plotted from stills or drawings. Final projects will be miked, edited, and cued for production.

465 Introduction to Lighting Design for Non-Designers (3) Theory and practice of stage lighting design with emphasis on the relationship between designers and non-design practitioners such as directors, actors, choreographers, architects, etc.

470-471 Playwriting (3.3) Advanced instruction in the writing of plays. Prereq: Consent of instructor.

481 Applied Theatre: Costumes (2) Laboratory in costumes for departmental productions. Credit available to Theatre majors only or with consent of department. 90 hours of work required.

482 Applied Theatre: Scenery (2) Laboratory in scenery for departmental productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

483 Applied Theatre: Lighting (2) Laboratory in lighting of productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

484 Applied Theatre: Performance (2) Laboratory in performance for departmental productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

485 Applied Theatre: Management (2) Laboratory in management for departmental productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

UNIVERSITY HONORS (983)

182-128 Whittle Scholars Seminar (1,1) Sequence limited to and required of all Whittle Scholars in their freshman year. 118 concentrates on contemporary issues of leadership. Credit available to Whittle Scholars only with permission of instructor. Satisfactory/No Credit grading only.

327, 337, 437 Honors: Concentration in the Humanities (3,3,3) Small group studies of selected topics, issues or problems with a concentration in the humanities. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

247, 347, 447 Honors: Concentration in the Social Sciences (3,3,3) Small group studies of selected topics, issues or problems with a concentration in the social sciences. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

237, 347, 457 Honors: Concentration in the Natural and Applied Sciences (3,3,3) Small group studies of selected topics, issues or problems with a concentration in the natural and applied sciences. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

338-348 Tennessee Scholars Seminar (1,1) Sequence limited to and required of all Tennessee Scholars each year. May be repeated. Maximum 8 hours. Satisfactory/No Credit grading only.

418-428 Seminar in International Travel/Study/Work Overseas (1,1) Sequence required of all Whittle Scholars. Credit available to Whittle Scholars only with permission of instructor. Small group studies of selected topics, issues or problems with a concentration in the natural and applied sciences. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

491 Honors: Foreign Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

492 Honors: Off-Campus Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

493 Honors: Independent Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

UNIVERSITY STUDIES (984)

101 Freshman University Seminar (3) Introduction to university education as an adventure in personal growth and professional development. A/B/C/NC grading. Open only to freshmen, transfer students, and re-entry students; or by permission of instructor.

210-220 Case Studies (4,4) Variable content using case studies and problem-solving approaches to explore interdisciplinary issues. Includes a one-hour learning laboratory. Open only to students enrolled in a University Learning Community.

310-320 Special Topics in University Studies (3,3) Interdisciplinary approaches to current issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangement with the University Studies Program. Taught by faculty from throughout the University (often team-taught), including specialists presenting the approach of their discipline. Extensive use of films, field trips, student discussion. May be repeated. Maximum: 9 hours.

410-420 Advanced Topics in University Studies (3,3) Interdisciplinary research approaches to major issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the University (often team-taught). Extensive use of films, field trips, student discussion. May be repeated. Maximum: 9 hours.

URBAN STUDIES (985)

200 Human-Environment Systems (3) Same as Interior Design 200.

250 Introduction to Urban Studies (3) Same as Interior Design 250. Multidisciplinary nature of urban studies. Includes lectures by specialists presenting the approach of their disciplines to Urban Studies. Open only to women, and directed field research. Project results are presented to University Studies students and faculty.

321 Urban Policies and Politics (3) Same as Political Science 321.

323 Behavioral Geography (3) Same as Geography 323.

360 Practicum in Urban Studies (3-4) Student and faculty member team in conjunction with the East Tennessee Design Center, study a selected problem or aspect of the modern city.

401 The City in the United States (3) Same as Planning 401.

402 Survey of Planning (3) Same as Planning 402.

441 Urban Geography (3) Same as Geography 441.

450 Directed Field Work (3-15) Participant observation and directed field research. Project results are presented to University Studies students and faculty.

454 Cities and Urban American History (3) Same as History 454.

460 Senior Seminar (3) Variety of disciplines used to approach student selected problem. Prereq: 250, 350 and senior status. Student may not take 460 prior to having taken 450, except with prior permission of the University Studies Committee. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

464 Urban Ecology (3) Same as Sociology 464.

481 Real Estate Finance and Investment Analysis (3) Same as Finance 481.

482 Urban Development and Finance (3) Same as Finance 482.

WILDLIFE AND FISHERIES SCIENCE (993)

341 Law Enforcement and Public Relations (3) Fundamentals and general principles of local, state and federal laws and regulations governing natural resources and their management. Principles and practices of interacting with the public.

441 Wildlife and Fisheries Techniques (3) Capturing and handling fish and wildlife; population restoration; food habits; repro pop. Emphasis through major course work; marking techniques; fish culture systems; track and sign identification. Prereq: Forestry, Wildlife and Fisheries 317. 1 hour and 2 lab or field. One weekend field trip required.

443 Fisheries Science (3) Quantification and management of freshwater fisheries including population estimation, age and growth, biological assessment, and stocking. Prereq: Forestry, Wildlife and Fisheries 317 or Biology 230, and 6 hours of mathematics. 2 hours and 1 lab.

444 Ecology and Management of Wild Mammals (3) Biological and ecological characteristics of game mammals and endangered species. Principles and practices of wildlife management. Prereq: Forestry, Wildlife and Fisheries 317 or Biology 230. 2 hours and 1 lab. One weekend field trip required.

445 Ecology and Management of Wild Birds (3) Biological and ecological characteristics of game birds, endangered birds, and bird pests. Current principles and practices of wild bird management. Prereq: Forestry, Wildlife and Fisheries 317 or Biology 230. 2 hours and 1 lab. One weekend field trip required.

493 Independent Study in Wildlife and Fisheries Science (1-15) Special research or individual problem in wildlife and fisheries science.

WOMEN'S STUDIES (994)

210 Images of Women in Literature: Biography and Autobiography (3) Introduction to women's journals, diaries and biographies and autobiographies. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

215 Images of Women in Literature: Fiction, Poetry, Drama (3) Introduction to the study of women through the roles and stereotypes portrayed in a variety of literary genres (fiction, poetry, and drama), including works from diverse historical periods and cultures. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

220 Women in Society (3) Role played by women in various societies during different historical periods, factors which have limited women's participation in society, social scientists' assumptions about women.

230 Marriage and Family: Roles and Relationships (3) Same as Child and Family Studies 220.

310 Emergence of the Modern American Woman (3) Role of women in the development of American civilization and values. Major topics include women's legal and personal status, the emergence and development of feminism, women and the creative arts, and women's roles in industrial and post-industrial American society. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

320 Women and Religion (3) Same as Religious Studies 320.

324 Women in French Culture (3) Same as French 324.

375 Gender in Society (3) An examination of the role of women in contemporary American politics.

380 Women, Politics, and the Law (3) An examination of recent changes in the laws affecting women and a study of the role of women in contemporary American politics.

385 Women in Cross-Cultural Perspective (3) A study of the changing role of women in various cultures: industrial democracies, developing nations, communist countries. A team taught course with guest lecturing and small group discussions.

375 Gender in Society (3) Same as Sociology 375.

380 The Concept of Woman (3) Same as Philosophy 380.

385 Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

324 Women in American Literature (3) Same as English 324.

340 Women, Politics, and the Law (3) An examination of recent changes in the laws affecting women and a study of the role of women in contemporary American politics.

385 Women in Cross-Cultural Perspective (3) A study of the changing role of women in various cultures: industrial democracies, developing nations, communist countries. A team taught course with guest lecturing and small group discussions.
362 Philosophy of Feminism (3) (Same as Philosophy 362.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

383 Women in the Greek and Roman World (3) (Same as Classics 383.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

400 Topics in Women's Studies (3) Content varies. May be repeated.

410 Psychology of Sex Role Development (3)
422 Women Writers in England (3) (Same as English 422.)

425 Women's Health (3) (Same as Health 425.)

432 Women in European History (3) (Same as History 432.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

433 Literary Portraits of French Women (3) (Same as French 433.)

434 Psychology of Gender (3) (Same as Psychology 434.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

453 Women in American History (3) (Same as History 453.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

466 Rhetoric of the Women's Rights Movement (3) (Same as Speech 466.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

483 Afro-American Women in American Society (3) (Same as Afro-American Studies 483.)

493 Independent Study (1-15) Registration by consent of chair of Women's Studies.

ZOLOGY (995)

117-118 Honors: Fundamentals of Zoology (4,4) For superior students in any field; open to students with a minimum ACT composite score of 27 or a minimum college GPA of 3.2, or consent of instructor. Students not achieving at least a B in the first semester must complete the sequence with Biology 120. Must be taken in sequence. 117-Cellular processes, genetics, and development. 118-Physiology, phylogeny, and ecology. 6 hours combined lecture and lab. May not receive credit for 117-118 and Biology 110-120 or Botany 110-120.

210-220 Human Biology (3,3) For non-majors; not available as prerequisite or major credit in Zoology or Biology. 210 is a prerequisite to 220, 210-Cell Biology, Reproduction, Prenatal Development and Physiology, 220-Diversity of Life Forms, Uniqueness of Humans, Genetics and Ecology.

230 Human Physiology (3) Fundamentals of human physiology, primarily from the perspective of cellular and organ-system interactions. Credit may not be applied toward Zoology major. Prereq: One year of college chemistry. 4 hours and one lab.

240 Human Anatomy (3) Gross and microanatomy of the human. Credit may not be applied toward Zoology major. Introduction Biology or Zoology 230 or equivalent recommended. 2 hours and 1 lab.

301 Special Topics (1-2) Topics of current interest. Consult departmental listing for topics offered. May be repeated but maximum of 2 credit hours may be applied toward the Zoology major.

302 Zoology Colloquium (1) Weekly discussions of topics of contemporary interest. Intended for life sciences majors. Satisfactory/No Credit only. May be repeated but one 1 credit hour may be applied toward the Zoology major.

310 Bioethics (3) Relationships between biological discoveries and human values. Open discussions of selected dilemmas arising from new knowledge in evolution of behavior, genetics, reproduction, medicine, and environment.

322 Physiology of Reproduction and Lactation (3) (Principles of Animal Science 322.)


331 Animal Development and Embryology Laboratory (2) Coreq: 330.

335 Comparative Vertebrate Biology (4) Origins, phylogeny, diversity and functional anatomy of vertebrates. Laboratory involves dissection of shark, cat, and selected other vertebrates. 2 hours and 2 labs.

360 Comparative Invertebrate Biology (4) Origins, phylogeny and functional anatomy of invertebrates with emphasis on diversity of life forms and adaptations to specific local environments. 2 hours and 2 labs.

370 Ethnology and Sociobiology (3) (Same as Psychology 370.)

380 General Entomology (3) Introduction to insects: basic structure, physiology, behavior, evolution and classification of insect orders. 2 hours and 1 lab.

400 Undergraduate Research (2) Research projects under supervision of faculty. Prereq: Junior or senior standing and prior consent of instructor. May be repeated. Maximum of 4 hours may be applied toward the Zoology major.

402 Practicum in Zoology (2) Participation in individualized practical applications of zoology in community, government, and industry. Prereq: Biology 210, 220, 230 and prior consent of instructor.

403 General Genetics Laboratory (2) Experiments designed to illustrate basic principles of inheritance. Prereq: 360 or 380. 2 hours and 1 lab.

404 Cytological Technique (2) Practical experience with a variety of techniques including microscopy, embedding and sectioning, chromosome preparations, autoradiography, in situ hybridization, histochemistry, and immunofluorescence. Prereq: Biology 210, 220.

405-406 A14-12 Minicourse in Zoology (2) Selected advanced topics in zoology, concentrated in time and subject matter. Consult departmental listing for topics offered. Prereq: As announced. May be repeated for credit but a maximum of 4 hours may be applied toward the Zoology major.

409 Perspectives in Zoology (3) Forefront considerations of the life sciences. Emphasis on current developments for applications, including societal and economic impacts and ethical and moral implications. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. An oral presentation and a referenced library-research essay are required.

410 Advanced Cell Biology (3) Molecular and supramolecular structures and functions of eukaryotic cells including regulatory mechanisms, physiology, behavior, and cellular interactions. Prereq: Biology 210, 220, 230, 231 and prior consent of instructor. 2 hours and 1 lab.

420 Cell and Tissue Structure and Function (4) Animal cells and tissues at light and electron microscopy levels. Prereq: Biology 210, 2 hours and 2 labs.

430 Immunology (2) (Same as Microbiology 430.)

439 Immunology Laboratory (1) (Same as Microbiology 439.)


445 Comparative Animal Physiology (3) Comparison of diverse physiological mechanisms aiding in adaptation to particular habitats and lifetyles. Prereq: Biology 210, 230, 2 years of chemistry; recommended: 380.

449 Laboratory in Physiology (2) Prereq or Coreq: 440 or 445.

450 Comparative Animal Behavior (3) (Same as Psychology 450.)

459 Comparative Animal Behavior Laboratory (3) Introduction to observational and experimental research in ethology. Coreq: 450. (Same as Psychology 459.)

460 Evolution (3) Modern concepts of animal evolution. Prereq: Biology 220.

465 Human Genetics (3) Genetic and molecular principles and problems of human inheritance. Prereq: Biology 220.

470 Aquatic Ecology (3) Introduction to the physico-chemical nature of inland waters with description of biotic communities and their interrelationships. Prereq: Chemistry 120-130 and Biology 230. 2 hours and 1 lab.

472 Arachnology (3) Biology of spiders, mites, scorpions and relatives. Prereq: 360 or 380. 2 hours and 1 lab.

473 Herpetology (3) Biology of amphibians and reptiles with emphasis on ecology and adaptive radiation. Prereq: Biology 230. 2 hours and 1 lab.

474 Ichthyology (4) Evolution, classification, collection, identification, distribution and biology of fishes with emphasis on freshwater fauna of Eastern North America. Prereq: Biology 230 or consent of instructor. 2 hours and 2 labs.

475 Ornithology (3) Behavior, ecology, populations, evolution and field identification of birds. Prereq: Biology 230. 2 hours and 1 lab.

476 Mammalogy (3) Evolution, classification, biogeography, ecology, behavior and functional anatomy of mammals. Prereq: Biology 230 or equivalent. 2 hours and 1 lab.

480 Physiology of Exercise (3) (Same as Physical Education 480.)

490 Comparative Endocrinology (3) Comparative analysis of physiology and morphology of endocrine glands in vertebrates and invertebrates, their role and interaction in maintenance of the organism and species. Prereq: 440 or equivalent.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)
Student Financial Aid, 17
Deadlines for Application, 17
Scholarships and Grants, 17
Student Employment, 18
Student Loans, 17
Transfer Students, 17
Symphony Orchestra, UT, 12

T
Table of Contents, 3
Teacher Certification, 64
Technological and Adult Education, 67, 183
Textiles, Merchandising and Design, 87, 183
Theatre, 11, 115, 184
Transportation Center, 128

U
Undergraduate Retention Standards, 35
Academic Review, 35
Academic Second Opportunity, 35
General Requirements for Bachelor's Degree, 35
Honors Categories for Graduation, 36
Readmission, 35
Second Bachelor's Degree, 36
Transfer Students, 35
University Honors, 120, 185
University Evening School, 132
University Studies, 122, 185
Urban Studies, 106, 185

V
Vehicle Operation and Parking, 13
Veterinary Medicine, 126

W
Water Resources Research Center, 128
Wildlife and Fisheries Science, 50, 185
Women's Center, 14
Women's Studies, 106, 115, 185
Work Study, College, 18
Writing Center, 15
Writing Competence, 34
WUOT, 12

Z
Zoology, 115, 186