

- 110: Introduction to Application of the Nursing Process.** 8-0-3. Coreq., NURS 109, and credit or registration in BISC225 and 226. Acquaints student with basic nursing principles and techniques of safe nursing care to meet basic human needs. Emphasis on interpersonal skills, communication, interviewing and observation.
- 112: Adult Health Maintenance I.** 8-3-5. Preq., NURS 109 and 110 and BISC 225 and 226 and credit or registration in BISC227. Study, identification and application of nursing knowledge and skills related to adult health needs. Emphasis on patient-centered care utilizing the nursing process.
- 113: Introduction to Associate Degree Nursing.** 0-0-10. Emphasizes the nursing process and basic human needs with introduction to associate degree nursing roles. Principles are applied with validation in the clinical setting.
- 114: Adult Health Maintenance II.** 8-3-5. Preq., NURS 112 and BISC 225, 226, and 227. Continuation of the study, identification and application of nursing knowledge and skills related to adult health needs. Emphasis on patient-centered care utilizing the nursing process.
- 116: Adult Neuro/Psycho-Social Health Maintenance.** 8-3-5. Preq., NURS 114 and PSYC 102. Utilizes nursing knowledge/skills in provision of health care. Emphasis on nursing care of clients experiencing threats to needs as a result of neuro-psycho-social dysfunction.
- 210: Maternal/Newborn Health Maintenance.** 8-3-5. Preq., NURS 116. Study/application of principles and concepts of family-centered maternal/newborn care. Emphasis on meeting specific needs of clients during the childbearing cycle and newborn period.
- 212: Child Health Maintenance.** 8-3-5. Preq., NURS 116 and PSYC 408. Study/application of nursing knowledge/skills related to children's and adolescent's health needs. Includes growth and development, family, and prevention of and intervention in illness.
- 214: Nursing Seminar.** 0-1-1. Preq., Credit in all previous nursing courses. Study of current nursing trends in light of evolving patterns and practices. Emphasis on professional opportunities and obligations and legal aspects of nursing practice.
- 216: Nursing Practicum.** 24-4-7. Coreq., NURS 214. Preq., Credit in all other nursing courses. Integration of knowledge and skills acquired in previous nursing courses in caring for clients with complex and/or multiple threats to basic needs.
- 280: Selected Topics.** 1-3 hour(s) credit (6). Preq., Approval by Nursing Division Director. Independent study course designed for students to become involved with creative learning opportunities related to nursing research, theory and practice.

PHILOSOPHY (PHIL)

- 201: Introduction to Philosophy.** 0-3-3. Preq., junior standing or permission of the instructor. Philosophical vocabulary; types and problems of philosophy; major philosophical positions.
- 305: Ethics.** 0-3-3. Preq., PHIL 201 or permission of the instructor. A study of the writings of the major moral philosophers, beginning with the Greeks and continuing to the present.

PHYSICS (PHYS)

- 102: Introductory Physics.** 2-1-1. An introductory survey of physics, use of library resources, and basic computation.
- 103: Introductory Physics.** 2-1-1. A continuation of PHYS 102.
- 104: Introductory Physics.** 2-1-1. A continuation of PHYS 103.
- 201: General Physics.** 0-3-3. Preq., MATH 241. Thorough treatment of fundamental principles and detailed analysis of important physical situations.
- 202: General Physics.** 0-3-3. Preq., PHYS 201 and MATH 242. A continuation of PHYS 201.
- 205: Descriptive Physics.** 0-3-3. For non-science majors interested only in the cultural aspects of the subject.
- 206: Descriptive Physics.** 0-3-3. A continuation of PHYS 205.
- 209: Elementary Physics.** 0-3-3. Preq., MATH 112. For pre-medical, pre-dental, pre-pharmacy, and science education students. A study of the fundamental principles of physics and their applications.
- 210: Elementary Physics.** 0-3-3. Preq., PHYS 209. A continuation of PHYS 209.
- 220: Astronomy - The Solar System.** 0-3-3. An introduction to Astronomy, covering the history of Astronomy and the Solar System.
- 221: Introduction to Astrophysics.** 0-3-3. Introduction to astronomy, with emphasis on physical principles. Application of mechanics to orbits of

- planets and multiple stars. Atomic theory applied to stellar spectra. Nuclear reactions in stars.
- 230: Astronomy - The Stars and Galaxies.** 0-3-3. An introduction to Astronomy, covering the stars, galaxies, and the universe.
- 261: General Physics Laboratory.** 4 1/2-0-1. Preq., MATH 112 or 241. Laboratory investigations of basic physical principles.
- 262: General Physics Laboratory.** 4 1/2-0-1. Preq., PHYS 261. A continuation of PHYS 261.
- 303: Geometrical Optics.** 0-3-3. Preq., PHYS 202. The study of thick lenses, lens system layouts, aberrations, photometric theory applied to optical systems, optical instruments and matrix optics.
- 304: Physical Optics.** 0-3-3. Preq., PHYS 202. A thorough position of the wave theory of light and an introduction to the quantum theory.
- 307: Thermodynamics.** 0-3-3. Preq., PHYS 202. Classical thermodynamics and introductory classical and quantum statistical mechanics.
- 320: Optics Laboratory I.** 4 1/2-0-1. Experiments in optics to demonstrate optical phenomena.
- 350: Introduction to Lasers.** 0-3-3. Preq., six hours of physics. Introduction to modern laser technology. A semi-quantitative approach presents all known types of lasers. Applications such as measurements, instrumentation, communications, biological, medical, and health hazards are concluding topics.
- 406: Electricity and Magnetism.** 0-3-3. Preq., MATH 245, PHYS 202. A study of the fundamental theories of electricity and magnetism. An application of basic principles is stressed.
- 407: Electricity and Magnetism.** 0-3-3. Preq., PHYS 406. A continuation of PHYS 406.
- 408: Electricity and Magnetism Laboratory.** 4 1/2-0-1. Experiments in circuitry and in classical electricity and magnetism.
- 409: Electricity and Magnetism Laboratory.** 4 1/2-0-1. Preq., PHYS 408. A continuation of PHYS 408.
- 415: Introduction to Lasers.** 0-3-3. Preq., PHYS 304, 417. Introduction to modern laser technology. Topics included are spectra of simple systems, lifetimes and energy levels, atomic, molecular and solid state lasers, and laser applications.
- 416: Modern Physics.** 0-3-3. Preq., PHYS 202. An advanced course in general physics stressing the modern developments of the subject.
- 417: Modern Physics.** 0-3-3. Preq., PHYS 416. A continuation of PHYS 416.
- 418: Modern Physics Laboratory.** 4 1/2-0-1. Laboratory exercises involving the electron and the nucleus.
- 419: Modern Physics Laboratory.** 4 1/2-0-1. Preq., PHYS 418. A continuation of PHYS 418.
- 420: Optics Laboratory II.** 4 1/2-0-1. Experiments in optics to demonstrate advanced optical phenomena.
- 422: Physical Mechanics.** 0-3-3. Preq., PHYS 202, MATH 245. Statics, particle dynamics, dynamics of a rigid body, kinetic theory, elasticity, wave motion, and behavior of fluids. Fundamental importance of mechanical principles in all fields of physics emphasized. (G)
- 423: Physical Mechanics.** 0-3-3. Preq., PHYS 422. A continuation of PHYS 422. (G)
- 424: Quantum Mechanics.** 0-3-3. Preq., PHYS 423 or equivalent, PHYS 416, and MATH 245. An extension of mechanics into the microscopic world. The statistical nature of physical law is developed to augment the classical Newtonian picture of the macroscopic world.
- 430: Introduction to Medical Physics.** 0-3-3. Preq., PHYS 209-210 or 201-202. A basic course in Physics of radiology, designed for students interested in therapeutic and diagnostic uses of ionizing radiation. (G)
- 435: Undergraduate Physics Research.** 1-3 hours credit (6). Preq., consent of instructor. Introduction to methods of research.
- 440: Fourier Optics.** 0-3-3. Preq., PHYS 406, 407, or ELEN 411. An introduction to the theory of Fourier Optics including optical data processing and holography. (G)
- 450: Modern Optics.** 0-3-3. Preq., PHYS 350. Selected topics in modern optics.
- 462: Modern Physics for Teachers.** 0-3-3. Preq., 8 hours of Physics or permission of instructor. A survey of modern physics as used by the high school teacher of physics. Emphasis is placed on experimental techniques.
- 463: Modern Physics for Teachers.** 0-3-3. Preq., 8 hours of Physics or permission of instructor. Hands-on experience for teachers developing a physics science program that emphasizes the observational side of Physics.

- 465: Physics of Sound.** 0-3-3. Preq., PHYS 205. The physical and psychophysical processes associated with sound are studied so that the basic mechanisms of hearing, speech and music can be better understood.
- 470: Seminar.** 1-6 hours credit. Preq., Permission of instructor. An opportunity is given for students to present current topics and actively participate in discussions concerning new developments in physics.
- 480: Modern Astrophysics.** 0-3-3. Preq., PHYS 417. Astrophysics is discussed in light of the tremendous amount of data accumulated from areas such as high energy experimental physics and elementary particle theory.
- 503: Topics in Physics.** 1-3 hours credit (6). Independent study. Topics arranged to meet the needs of the student.
- 511: Electromagnetic Theory.** 0-3-3. An advanced treatment of the theory of electricity and magnetism.
- 512: Solid State Physics.** 4 1/2-3-4. An advanced treatment of the structure and the thermal, electrical and magnetic properties of solid materials.
- 521: Theoretical Mechanics.** 0-3-3. A presentation of advanced classical mechanics oriented towards modern theories of physics.
- 522: Quantum Mechanics.** 0-3-3. Preq., MATH 502. An outline of the principles of wave mechanics and quantum mechanics, followed by their application to problems in atomic and nuclear theory.
- 523: Classical Theory of Fields.** 0-3-3. Preq., PHYS 511, 522. A concentrated study of the dynamics of relativistic particles and electromagnetic fields utilizing the Lagrangian and Hamiltonian formulations for fields.
- 524: Quantum Theory of Fields.** 0-3-3. Preq., PHYS 523. An advanced course on the quantum structure of field theories. Functional techniques are used to discuss the quantum theory of electroweak and strong interactions.
- 531: Theories of Physics.** 0-3-3. Selected topics. Contemporary theories dealing with recent trends in physics.
- 532: Theories of Physics.** 0-3-3. A continuation of PHYS 531.
- 533: Statistical Mechanics.** 0-3-3. Preq., PHYS 521. A study of the statistical aspects of modern physical theory. Considers the classical and quantum aspects of many-particle systems.
- 540: Computational Methods in Physics Modeling and Simulation I.** 0-3-3. Computational methods for implementing modeling and simulation of physical systems.
- 541: Computational Methods in Physics Modeling and Simulation II.** 0-3-3. Preq., PHYS 540. Computational methods for implementing modeling and simulation of physical systems.
- 549: Physics Research & Reporting.** 0-3-3 (6). Preq., 12 semester hours of graduate work. Experimental or computational study of a problem in physics. A survey of the relevant literature and a formal written report are required. This course fulfills the research and reporting requirement for a master's degree non-thesis option.
- 551: Research and Thesis in Physics.** Registration in any quarter may be for three semester hours credit or multiples thereof. Maximum credit allowed is six semester hours.

PLANT SCIENCE (PLSC)

- 101: Introduction to Plant Science.** 0-3-3. Basic concepts of production and management of agronomic and horticultural crops.
- 211: Forage Crops and Pasture Management.** 3-2-3. A study of the growth adaptation and culture of forage crops including types of plants, methods of establishment and improvement, and use of forages.
- 284: Woody Plants.** 3-2-3. Identification of woody landscape plants, including culture, propagation, and use.
- 300: Horticulture Field Trip.** 9-0-1. Field trips to experiment stations, large wholesale and retail nurseries, botanical gardens, and arboreta.
- 301: Landscape Design.** 3-2-3. Elements and principles of design as applied to the home and other small properties.
- 302: Environmental Design.** 3-2-3. Environmental factors affecting the landscape, including discussion of natural systems, remote sensing and large-scale design.
- 309: Field Crops.** 3-2-3. Fundamentals of production, harvesting, storage, marketing, and utilization of grain, fiber, oil, and sugar crops.
- 310: Soil Science.** 0-3-3. Preq., CHEM 100, 101, 102. A general study of soil science, emphasizing the relation of soil properties and processes to plant growth. Also listed as ENSC 310.
- 311: Soil Science Laboratory.** 3-0-1. Coreq. or Preq., PLSC 310. Laboratory exercises to elaborate fundamental principles of soil properties, soil testing, and soil survey reports. Also listed as ENSC 311.

- 312: Turf Management.** 3-2-3. Establishment, maintenance, and management of turf grasses for homes, athletic fields, golf courses, playgrounds, parks, highways, airfields, and other uses.
- 319: Agricultural Chemical Applications and Techniques.** 3-1-2. Equipment and procedures used for applying agricultural chemicals (e.g., herbicides, insecticides, and fungicides). Calibration. Safety. Exam for certification of applicators.
- 320: Plant Propagation.** 3-2-3. Principles and practices of sexual and asexual methods or propagating horticultural plants.
- 384: Herbaceous Plants.** 3-2-3. Identification of annual, perennial, and tropical plants, including culture, propagation, and use.
- 400: Special Problems.** 3-0-1 (4). Assignments in floral or landscape design, greenhouse or field production projects or other horticulture practicums.
- 403: Edible Horticultural Crops.** 3-2-3. Methods and practices of home and commercial production of vegetable and fruit crops, with emphasis on those adapted to the South.
- 409: Plant Breeding.** 3-2-3. A study of the application of the fundamental principles of genetics to the development and maintenance of improved plant varieties. (G)
- 420: Greenhouse Management.** 3-2-3. Principles and practices involved in greenhouse operation, including production of flowering and foliage crops.
- 421: Weed Science.** 3-2-3. Weed control in Agricultural crops, including weed ecology, classification, dormancy, dissemination; seed anatomy and germination; herbicidal action and practical application techniques. (G)
- 422: Pest Management I.** 0-3-3. Basic concepts of integrated pest management; pesticides, biological control agents, varietal resistance, pheromones and trap crops, laws and regulations, labeling requirements, pesticide classification and safety. (G)
- 423: Pest Management II.** 3-2-3. Identification of insects, nematodes and disease-causing organisms affecting row crops of the south; monitoring procedures, economic threshold levels; steps in solving pest problems. (G)
- 430: Soil Fertility.** 3-2-3. Preq., PLSC 310, 311. Fundamentals of soil fertility and plant nutrients; source, manufacture, use, and properties of chemical fertilizers.
- 440: Nursery Management.** 0-3-3. Production, handling and sales practices in the nursery, greenhouse and garden center. (G)
- 441: Landscape Contracting.** 3-2-3. Landscape contracting operations; estimating and bidding, plant installation, care and maintenance, design considerations, use of structural elements and irrigation systems. (G)

POLITICAL SCIENCE (POLS)

- 201: National Government in the United States.** 0-3-3. A study of the development of the national government with emphasis on problems connected with the federal system and separation of powers.
- 302: Comparative Foreign Governments.** 0-3-3. Preq., POLS 201 or consent of instructor. A study of the political systems and governments of the major European nation-states of the twentieth century.
- 303: State Government and Administration in the United States.** 0-3-3. Preq., POLS 201. A study of the role of the state in the American Union including nation-state and interstate relations.
- 310: Government and the Economy.** 0-3-3. Preq., POLS 201. Political/economic issues (employment, inflation, poverty, energy, environment, health care, etc.) are studied according to competing theories of political economy.
- 320: Legislation in the United States: Federal and State.** 0-3-3. Preq., POLS 201. A study of the legislative process and of the influences that determine the nature of the legislative product.
- 322: Political Parties in the United States.** 0-3-3. Preq., POLS 201. A study of American political parties, including historical origins, their broad role in the political system, and their current place in American politics.
- 325: History of European Political Theory.** 0-3-3. Preq., POLS 201, and junior class standing, or consent of instructor. A study of Western political philosophy from its beginnings to the nineteenth century.
- 327: Modern Political Theory and Ideologies.** 0-3-3. Preq., POLS 201. A study of nineteenth and twentieth century political theory with emphasis on the principal modern ideologies (Anarchism, Communism, Socialism, Fascism, Democracy).
- 330: The American Presidency.** 0-3-3. Preq., POLS 201. A study of the American Presidency including its origins, roles, functions, and problems.
- 345: Scope and Methods in Social Sciences.** 0-3-3. Preq., POLS 201. An introduction to basic statistics, research design, and the application of the qualitative and quantitative methods to the social sciences.

- 350: International Relations.** 0-3-3. Preq., POLS 201. An introductory study of political contacts between modern nation-states, the origin of nationalism and imperialism, and the causes and effects of power politics.
- 355: American Foreign Policy.** 0-3-3. Preq., POLS 201. America's foreign policy doctrines and the factors involved in their formulation, including constitutional framework, presidential and congressional leadership, pressure groups, public opinion, and international environment.
- 420: Contemporary Problems in Government.** 0-3-3. Preq., One of the following courses: POLS 201, or 303, and junior standing.
- 426: American Constitutional Law I.** 0-3-3. Preq., POLS 201. Introduction to judicial institutions and processes as well as a case method study of the constitutional issues of judicial review, federalism, government economic regulation, and others.
- 427: American Constitutional Law II.** 0-3-3. Preq., POLS 201. A continuation of the case method study of constitutional law, with emphasis on political and civil rights (speech, press, assembly, religion, race, criminal procedure, etc.).
- 460: Politics of Developing Nations.** 0-3-3. Preq., POLS 201. An analysis of the relationship of politics to rapid economic and social change in developing nations and evaluation of policies intended to promote development.
- 465: Asian Politics.** 0-3-3. Preq., POLS 201. A survey of interrelationships among Asian nations, their relationships with occidental powers, their international roles, and politics of the region as a whole.

PROFESSIONAL AVIATION (PRAV)

- 101: Private Pilot Ground I.** 0-3-3. An introduction to basic aerodynamics, aircraft systems, instrumentation, performance, and aviation weather. Initial preparation for FAA Private Pilot Certificate.
- 102: Private Pilot Ground II.** 0-3-3. Preq., PRAV 101. An introduction to FAA regulations and procedures, communications, navigation, aviation physiology, aviation safety and emergency procedures. Final preparation for the FAA Private Pilot Written Certificate.
- 110: Private Pilot Flight I.** 4-0-1. Preq., PRAV 101, 102 or concurrent enrollment. Provides student with approximately 11 hours of simulator/dual/solo flight instruction. Designed to meet FAA flight requirements for the Private Pilot Certificate. Special Fee.
- 111: Private Pilot Flight II.** 4-0-1. Preq., PRAV 102 or concurrent enrollment. Provides student with approximately 24 hours of dual/solo flight instruction. Designed to meet FAA flight requirements for the Private Pilot Certificate. Special fee.
- 200: Aircraft Powerplant Systems.** 0-3-3. Preq., PRAV 101/102. Theory of piston engines. A study of the internal combustion process in the radial, opposed and V-typed engines including engine driven accessories.
- 205: Aircraft Electrical Systems.** 0-3-3. Preq., PRAV 101 and 102. Fundamentals of aircraft electrical systems.
- 208: Introduction to Computers.** 1-2-2. Introduction to computers to acquire computer literacy. Study of hardware, software, systems, and application in aviation.
- 223: Fixed Base Operations.** 0-3-3. Preq., PRAV 101 and 102. Detailed study of the functions and responsibilities of the typical Fixed Base Operator.
- 239: Aviation Weather.** 0-3-3. Preq., PRAV 102. Weather systems, weather reporting, airborne weather radar, weather safety, and severe weather avoidance. Designed to meet weather knowledge requirements for instrument, commercial, and CFI ratings.
- 240: Instrument Pilot Ground I.** 0-3-3. Preq., PRAV 102 and 111 or concurrent enrollment. Attitude instrument flying, instrumentation, navigation systems for general aviation and air carriers. Designed to meet the FAA ground training requirements for the Instrument rating.
- 241: Instrument Pilot Ground II.** 0-2-2. Preq., PRAV 240 and Private Pilot Certificate. Navigation/approach charts, regulations pertinent to instrument flight, instrument flight planning, communications. Departure, en-route, and approach procedures. Final preparation for FAA Instrument rating.
- 242: Instrument Flight I.** 3-0-1. Preq., Private Pilot Certificate. Provides the student with approximately 15 hours of instrument flight instruction necessary to meet the FAA requirements for the Instrument rating. Special Fee.
- 243: Instrument Pilot Flight II.** 3-0-1. Preq., PRAV 242. Provides the student with approximately 60 hours of dual instrument flight instruction necessary to meet the FAA requirements for the Instrument rating. Special Fee.
- 303: Aerodynamics.** 0-3-3. A study of advanced aircraft design, aerodynamics, and performance.
- 305: Jet Propulsion Systems.** 0-3-3. Preq., PRAV 102. Theory of jet propulsion to include turbojet, turbofan, and turboprop engines.
- 315: Airport Planning & Management.** 0-3-3. Provides the student with introductory exposure to the field and scope of airport planning and management.
- 316: Human Factors in Aviation.** 0-3-3. For recognition of the comprehensive role of human factors in enhancing aviation safety.
- 320: Corporate Aviation.** 0-3-3. Value/Benefit analysis of the corporate aviation decision. Topics include aircraft selection, flight department administration and operations, aircraft maintenance, FAA regulatory requirements, and future considerations.
- 322: Aviation Law.** 0-2-2. Study of aviation law development and application. Case studies. Required for Airway Science curriculum.
- 331: Air Carrier Systems:** 0-3-3. Study of air carrier operations to include flight planning, large airplane systems, and performance systems. A capstone course designed to prepare students for a career with a commercial carrier.
- 332: Air Carrier Operations.** 0-3-3. Study of required pilot operations, dispatcher procedures, and FAA certification requirements.
- 340: Commercial Pilot Ground I.** 0-3-3. Preq., PRAV 240. Aerodynamics, performance, instrumentation, stability and control, aircraft limitations, aircraft systems, aviation safety. Designed to meet FAA ground instruction requirements for Commercial Pilot Certificate.
- 341: Commercial Pilot Ground II.** 0-2-2. Preq., PRAV 340. Advanced navigation, aircrew decision making, crew resource management, physiology of flight. FAA Part 121, 125, and 135 operations. Final preparation for FAA Commercial Pilot Certificate.
- 342: Commercial Pilot Flight I.** 6-0-1. Preq., PRAV 341 or Private Instrument Certificate. Provides students with approximately 21 hours of flight instruction. Designed to meet the flight requirements for the FAA Commercial Pilot Certificate.
- 343: Commercial Pilot Flight II.** 6-0-1. Preq., PRAV 342. Provides students with approximately 23 hours of flight instruction. Designed to meet the FAA flight requirements for the Commercial Pilot Certificate. Special Fee.
- 344: Commercial Pilot Flight III.** 6-0-1. Preq., PRAV 343. Provides students with approximately 22 hours of flight instruction. Designed to meet the FAA flight requirements for the Commercial Pilot Certificate. Special Fee.
- 400: Multi-Engine Ground.** 0-2-2. Preq., PRAV 341 and 343. Ground instruction for FAA Multi-Engine rating. Emphasizes systems, crew concept procedures, emergency procedures, performance, weight/balance and air carrier flight planning procedures.
- 405: Instrument Flight Instructor.** 3-2-3. Preq., PRAV 414 and Certified Flight Instructor Rating and approval of Department Head. Provides students with fundamentals necessary to analyze and instruct instrument referenced flight maneuvers and procedures. Prepares student for FAA Instrument Flight Instructor rating (CFII).
- 407: The National Airspace System.** 0-3-3. A survey course designed to instruct the student on the National Airspace Systems to include Air Traffic Control issues and procedures.
- 410: Multi-Engine Pilot Flight.** 3-0-1. Preq., PRAV 400 or concurrent enrollment. Provides students with flight instruction necessary for FAA Multi-Engine rating. Special fee.
- 411: Instructor Pilot Flight.** 3-0-1 (3). Preq., PRAV 414 or concurrent enrollment and a Commercial Instrument Pilot Certificate. Provides students with flight instruction necessary to meet the requirements for an FAA Flight Instructor Certificate (CFI). Special fee
- 414: Flight Instructor Ground.** 0-3-3. Preq., PRAV 241 and 243 and a Commercial Instrument Pilot Certificate. Fundamentals of flight instruction and analysis of visual reference flight maneuvers. Preparation for FAA Instructor Pilot Certification (CFI).
- 415: Air Transport Pilot Flight.** 3-0-1 (3). Preq., approval of Department Head. Provides the student with flight instruction necessary to meet the requirements for FAA Airline Transport certificates and ratings. Special fee.
- 419: Supervised Practice Flight/Ground Instruction.** 3-0-1 (4). Preq., completion of PRAV 411 and 414. Directed observation and instructional critique of the student's performance in developing lesson plans and presenting actual flight and ground instruction.

- 440: Airline Economics and Management.** 0-3-3. An advanced study of airline operation, fleet acquisition, management techniques, economic considerations, public benefits applications.
- 490: The Government Role in Aviation.** 0-3-3. Preq., Senior standing. Historic, current and future governmental control. A study of congressional action, the NAS, the FAA, ICAO, and state and local aviation laws.
- 491: Aviation Safety.** 0-3-3. Historical development of aviation safety, accident/incident analysis and reporting, introduction to accident investigation, human factors, accident prevention and development of aviation safety programs.
- 495: Aviation Professionalism.** 0-3-3. Preq., senior standing. Study of aerospace industry and career opportunities. Emphasis on business climate and job acquisition. Overview of business, management, labor practices, and professional responsibility.
- 496: Internship in Aviation.** 3-12 hours credit. Internship in area(s) of specialization. Supervised work in government or industry to gain experience in aviation fields. Minimum 90 clock hours; maximum 360 clock hours.
- 498: Independent Study.** 0-3-3. Preq., Department Head's approval. Directed study of air transportation as part of a foreign and domestic, multi-model transportation system.

PSYCHOLOGY (PSYC)

- 102: General Psychology.** 0-3-3. A survey of fundamental processes and concepts of human behavior.
- 202: Advanced General Psychology.** 0-3-3. Preq., PSYC 102. An intensive survey of literature and procedures in general psychology.
- 204: Educational Psychology.** 0-3-3. Education Majors only. A survey course designed to meet the needs of prospective teachers by bringing an application of psychological principles to the instructional setting.
- 205: Child Psychology.** 0-3-3. Education Majors only. A study of the physical and mental growth of the child, the social, emotional, motor development, interests, and imaginative activities.
- 206: Adolescent Psychology.** 0-3-3. Education Majors only. A study of the physical and mental growth of youth during the period of adolescence and the transition from childhood to adulthood.
- 207: Learning and Development.** 1-3-3. An in-depth study of human development with emphasis on contemporary research relating to human learning and the application of psychological principles.
- 300: Elementary Statistical Methods in the Social Sciences.** 0-3-3. A course designed to provide an orientation to statistical concepts used in the behavioral science field.
- 301: Fields of Psychology.** 0-3-3. A study of the history of major fields and trends in psychology.
- 302: Physiological Psychology.** 0-3-3. Preq., BISC 225 (or concurrent enrollment), PSYC 202. An intensive study of the physiology of the nervous system, and its relation to behavior.
- 303: Parapsychology.** 0-3-3. Preq., PSYC 102 and 202 Critical examination of theoretical and methodological issues in the study of non-conventional sensory, perceptual, and cognitive processes.
- 304: Social Psychology.** 0-3-3. Preq., PSYC 202. A study of the nature of social behavior, social stimulation and response; a psychological analysis of society and social institutions.
- 305: Practical Psychology.** 0-3-3. Preq., PSYC 102. A survey of the practical application of psychological concepts to daily life. Emphasis on human social relationships, self-concept and personal growth.
- 307: Elementary Experimental Psychology.** 3-2-3. Preq., PSYC 300. A beginning course in applying the scientific method to the problems of psychology.
- 310: Psychology of Personality.** 0-3-3. Preq., PSYC 202. A study of major theories of personality.
- 312: Psychology of Learning.** 0-3-3. Preq., PSYC 202. A survey of current theories of learning.
- 321: Psychological Testing.** 0-3-3. Preq., PSYC 300. An introduction to the principles and practices of psychological testing and evaluation.
- 400: Behavior Modification.** 0-3-3. Applied analysis to individual behaviors using concepts, and principles from experimental analysis of behavior. (G)
- 404: Seminar In Psychology.** 0-3-3-(9). An intensive survey in selected current topics in the field of psychology. (G) (Graduate students should contact instructor for more specific criteria.)

- 407: Advanced Experimental Psychology.** 3-2-3. Preq., PSYC 307. Emphasis on investigating specific learning, motivation, and perception topics from methodological and historical viewpoints.
- 408: Human Growth and Development.** 0-3-3. A seminar for the study of human growth. (G)
- 411: Crisis Intervention.** 0-3-3. Preq., 6 hours in PSYC and COUN 400 or approval of department head. Overview of theories, strategies, and service delivery systems in crisis intervention. (G)
- 414: Dynamics of Adjustment.** 0-3-3. A comprehensive study of the problems of self-adjustment and self-management and the development of a well integrated personality. (G)
- 418: Abnormal Psychology.** 0-3-3. Preq., PSYC 310 and 312. A study of the nature and development of abnormal behavior from a psychological viewpoint. (G)
- 450: Introduction to Clinical Psychology.** 0-3-3. Preq., consent of instructor. Introduction to clinical psychology as a science and profession. Lectures, discussions, demonstrations, and field observations are provided for an overview of clinical psychology.
- 455: Environmental Psychology.** 0-3-3. Preq., PSYC 102. A survey of concepts about individual's interaction with the physical environment. Emphasis is placed upon designing physical surroundings to serve social and personal needs.
- 459: Research Methods in Psychology.** 0-3-3. Preq., PSYC 300. An examination of the practical problems of designing, conducting, and interpreting research and of the structure and organization of research writing.
- 460: Field Research in Psychology.** 1 - 3 hours credit (9). Preq., PSYC 459. Consent of the instructor. Supervised practice in methods of field research as a basic tool of psychology. Each student develops and executes a field research project. May be repeated for a maximum of 9 hours credit.
- 461: Data Analysis and Interpretation.** 1-3 hours credit (3). Preq., PSYC 300 or equivalent. A course designed to provide the skills necessary to use currently existing computer software to analyze data encountered in the social sciences.
- 465: Industrial Psychology.** 0-3-3. The application of psychological findings and concepts to the industrial environment. (G)
- 469: Psychology of Sexual Behavior.** 0-3-3. Preq., PSYC 102 and junior standing. Survey of both normal and abnormal sexual behavior and selected techniques employed in sex therapy and counseling. (G)
- 474: Psychology of Adult Learning and Development.** 0-3-3. Provides understanding of cognitive and psychosocial development in young, middle, and later adulthood. Emphasis is on aging process and factors, which affect adult learning.
- 475: Death, Dying and Grievance Process.** 0-3-3. Exploration of one's personal values toward death and the grieving process, funeral customs and practices, counseling the terminally ill, and various customs of death. Graduate students should contact instructor for more specific criteria. (G)
- 480: Psychology of Sex Roles.** 0-3-3. Overview of psychology of sex roles including history, theory, methodology, sex differences, and implications for development, socialization, abnormal behavior, counseling and gender. (G)
- 484: Introduction to Human Relations.** 0-3-3. An introduction to human relations factors in various work settings.
- 485: Industrial Behavioral Analysis.** 0-3-3. Application to behavior change techniques in work settings. A study of how to effectively manage others' as well as one's own work habits.
- 486: Introduction to Decision Making.** 0-3-3. An introduction to decision making models and methods.
- 487: Human Relations Communication.** 0-3-3. A study of how communications influences human relation in different contexts.
- 490: Social and Psychological Aspects of Blindness.** 0-3-3. Preq., enrollment in Educational Psychology Visual Impairments program or permission of instructor. Psychological and environmental aspects of blindness. Current and historical overview of practices & trends in the rehabilitation and education of individuals with visual impairments. (G)
- 499: Health Psychology.** 0-3-3. Preq., PSYC 102. A survey of the systematic application of psychology to the relevant areas of health, disease and the health care system.
- 502: Cognitive Psychology.** 0-3-3. Preq. enrollment in graduate program in psychology, counseling, or permission of instructor. Contemporary approaches to cognitive psychology; a broad survey of social cognition including attention, cognitive organization, mental reasoning, information processing, decision making, and human memory.

- 505: Theories in Marriage and Family Therapy.** 0-3-3. An overview of marital development and change; principles of family dynamics and functioning.
- 506: Strategies for Marriage and Family Therapy.** 0-3-3. Techniques for aiding married couples and families in distress; parenting strategies.
- 507: Learning and Development.** 0-3-3. Provides an understanding of forces, which propel learning and development and enables teachers to help students successfully meet the unique demands of school.
- 508: Psychological Aspects of Disability.** 0-3-3. An examination of attitudes, adjustment problems, sexuality, family and program implications for disabled populations.
- 509: Psychology of Aging.** 0-3-3. An analysis of changes that occur in middle and late adulthood from psychological, cognitive, and social viewpoints.
- 510: Principles of Human Development.** 0-3-3. Biological, psychological, and cultural interrelationships in human development.
- 512: Advanced Abnormal Psychology.** 0-3-3. Preq., Enrollment in Counseling MA Program or permission of instructor. Comprehensive review of the major characteristics, etiology, and implications for treatment of the major psychological disorders. Clinical and research findings are emphasized.
- 513: Organizational Psychology.** 0-3-3. A survey of current research and theories comprising organizational psychology. Critical-thinking skills are used to evaluate empirical research and current theories in the field.
- 516: Personnel Psychology.** 0-3-3 Topics covered include the professional and legal requirements for personnel selection instruments; design and evaluation of personnel selection systems, designing and conducting job analyses and selection interviews.
- 517: Training and Development.** 0-3-3. Provides the skills necessary to analyze, design, and evaluate training in organizations. Topics include determining training needs, task analysis, learning objectives, training methodologies, and evaluation.
- 518: Behavioral Analysis in Industry.** 0-3-3. Application of behavioral analysis in industry. A study of concepts, principles, and skills essential for designing and implementing a behavior change plan in organizational settings.
- 519: Advanced Theories in Counseling.** 0-3-3. Preq., COUN 508. Further analysis of theories of counseling as is evidenced by a review of current counseling literature.
- 522: Communication in Human Relations.** 0-3-3. A review of the concepts, principles, and skills essential for effective communication in working with people.
- 523: Leadership and Decision-Making.** 0-3-3. Examination of the various skills, behaviors, and attitudes required for effective leadership. Includes practices, decision-making, communication and ethical issues related to leadership.
- 524: Internship in Industrial/Organizational Psychology.** 20-1-3 (6). Supervised experiences in an applied setting involving application of skills and field work in Industrial/Organizational Psychology.
- 533: Community Psychology/Rural Mental Health.** 0-3-3. A study of community systems, intervention techniques, consultation methods, history and current status of the community mental health movement with particular emphasis on rural mental health research. Addresses psychological practice issues in the rural environment.
- 534: Psychology of Creativity.** 0-3-3. Preq., enrollment in Educational Psychology or Counseling Psychology graduate programs or permission of instructor. Reviews theories, defining characteristics, and empirical research literature on the creative process. Identifies relationships of creativity to ability/personality variables, and measurement/research issues.
- 541: Research Methods in Behavioral Sciences.** 0-3-3. Preq., PSYC 542. A study of the research methods and designs commonly used in the Behavioral Sciences. Emphasis on quantitative methodology and APA writing style.
- 542: Statistical Methods in Behavioral Sciences.** 0-3-3. A study of the statistical methods used to study problems in Behavioral Sciences.
- 543: Psychometrics.** 0-4-3. Preq., Graduate enrollment in I/O Psychology, Educational Psychology, or Counseling Psychology, or permission of instructor. Test and measurement theory, including classical, true score, and item response theory models. Covers reliability, validity, scaling, norms, and score transforming issues.
- 544: Qualitative Research Methods.** 0-3-3. Concepts and applications of qualitative research methods including techniques for data collection and analysis are explored.
- 580: Developmental Psychology of Blindness.** 0-3-3. This course emphasizes knowledge of physical, social, and emotional development of the blind including acquisition of motor, language, and cognitive skills, birth through adulthood.
- 589: Special Topics in Psychology.** 1-4 hours credit, may be repeated. Preq., enrollment in relevant graduate program in Psychology or permission of instructor. Current or specialized topics in psychology.
- 599: Master's Thesis.** 0-3-3 (6 hours minimum). Original research conducted under the supervision of a departmental faculty member in the student's program area. Student must be enrolled whenever university facilities or faculty are used. (Pass/Fail).
- 600: Seminar: Issues in Academic Psychology & Teaching.** 0-1-1 (9). May be repeated. Required of resident Counseling Psychology PhD students each quarter. Study of professional issues and research applications in counseling psychology. **Non-degree credit.**
- 601: Historical Foundations of Modern Psychology.** 0-3-3. Historical development of psychology from its philosophical beginnings to the present.
- 602: Physiological Psychology.** 0-3-3. A study of the neuroanatomical and neurochemical bases of behavior; contributions of physiological processes to fundamental behavioral processes.
- 603: Sensation and Perception.** 0-3-3. Sensory and perceptual phenomena that influence motivation, cognition, and learning.
- 604: Theories of Social Psychology.** 0-3-3. Theory and research concerning interpersonal perceptions, attitude formation and change, social motivation, and interactive processes.
- 605: Child Psychopathology.** 0-3-3. Examines diagnosis and treatment of child and adolescent disorders from empirical, theoretical, and practical viewpoints.
- 606: Comparative Psychology.** 0-3-3. A study of the phylogenetic bases of behavior. Interspecies behavioral similarities and differences are examined as they relate to human behavior.
- 607: Fundamentals of Psychopharmacology.** 0-4-3. Preq., enrollment in Ph.D. program in Counseling Psychology or permission of the instructor. Biochemical substrates of emotion, affect, and behavior are reviewed. Psychopharmaceutical mechanisms and intervention strategies are emphasized along with a review of the treatment research literature
- 608: Developmental Psychology.** 0-3-3. An advanced theory and research based study of the biological, psychological, social, and cultural processes in human growth and development. Counseling Psychology PhD students only.
- 609: Personality Theory.** 0-3-3. Comparative approach to personality theory from the framework of philosophical issues, definitional problems, and current research issues.
- 610: Professional Issues and Ethics.** 0-3-3. An investigation of legal and ethical issues relevant to the practice of counseling psychology.
- 611: Advanced Group Counseling and Psychotherapy.** 2-3-3. Group counseling theories with emphasis on advanced techniques and application, ethical responsibilities, and current trends with group research methodology. Practicum experience required.
- 612: Advanced Learning Theory.** 0-3-3. Psychological aspects of learning, including theoretical and practical applications.
- 613: Career Assessment and Counseling.** 4-3-4. Preq., enrollment in Counseling Psychology Ph.D. program, PSYC 531, 616, and 617. Assessment and counseling of career clients using interest, ability, and personality tests.
- 614: Professional Seminar in Counseling Psychology.** 0-3-3. Preq., Counseling Psychology PhD students only. A survey of trends and issues pertinent to the professional activities of counseling psychologists.
- 616: Intellectual Assessment.** 0-3-3. Preq., Enrollment in Counseling Psychology PhD program and approval of instructor. This course focuses on psychological assessment and interpretation of tests of ability, achievement, and higher cognitive functions. Differential psychodiagnosis and formal report writing are emphasized.
- 617: Personality Assessment: Objective and Projective.** 0-3-3. Preq., approval of instructor. This course focuses on psychological assessment using tests of personality, DSM-IV psychodiagnosis, and DSM-IV Axis II disorders. Psychological report writing and interpretation are emphasized.
- 618: Motivation.** 0-3-3. The study of levels of motivation from ethological to cognitive-social motives; relevant motivational theories are used to explain human behaviors.
- 619: Psychopathology.** 0-3-3. Comprehensive review of the etiology of psychological disorders and their diagnosis; clinical research findings are emphasized.

- 620: Sex Roles and Behavior.** 0-3-3. An investigation of the effect of gender upon cognition, affect, and behavior.
- 621: Career Development Theories.** 0-3-3. Preq., Counseling Psychology PhD students only. Intensive review of theories and research literature on career development across the life span. Application of theories to current career- and work-related problems.
- 622: Theories of Counseling and Psychotherapy.** 0-3-3. Preq., Counseling Psychology PhD students only. A comparative approach to theories of counseling and psychotherapy at an advanced level.
- 623: Integrative Assessment.** 0-3-3. Preq., PSYC 616 & 617, Counseling Psychology PhD students only. Emphasis on selection, administration, and combination of results from various assessment instruments into an integrated whole. Integrative report writing is emphasized.
- 624: Counseling Psychology Internship.** 1-3 hours credit. Minimum credit allowed is 12 hours. Preq., completion of departmental requirements and approval of Counseling/Psychology Program Director and Department Head. One calendar year (or two half-years) of supervised full-time, counseling psychology experience in a Department-approved (typically, APA-approved) internship facility.
- 625: Research Seminar.** 0-3-3. Preq., Counseling Psychology PhD students only, or signature of instructor. Integration of research design, methodology, and statistics in psychological research.
- 627: Advanced Assessment Topics.** 0-3-3 (9). Preq., Counseling Psychology PhD students only. A rotating topics course providing advanced training in selected assessment instruments and processes. May be repeated twice.
- 628: Special Topics in Psychology.** 1-3 hours credit (9). May be repeated. Counseling Psychology PhD students only or permission of instructor. Intensive study of a selected topic in psychology.
- 629: Advanced Seminar in Counseling Theories & Techniques.** 0-3-3 (9). May be repeated. Preq., Counseling Psychology PhD students only. A rotating topics course providing advanced study of selected counseling theories and therapeutic techniques.
- 630: Supervision in Counseling & Psychotherapy.** 0-3-3. Preq., Counseling Psychology PhD students only. Overview of supervision/consultation models, including application of principles to clinical practice.
- 632: Psychotherapy Research.** 0-3-3. Preq., Counseling Psychology PhD students only. Investigation of research on change elements and outcome research in psychotherapy, including factors impacting change processes and cost-benefit issues raised by managed mental health care.
- 641: Advanced Experimental Design and Analysis.** 0-3-3. Theory and technique for maximizing the validity of psychological experiments and analyzing results via ANOVA, factorial ANOVA, ANCOVA, repeated measures ANOVA, and higher-order analyses.
- 642: Advanced Statistical Methods.** 0-3-3. Techniques such as multiple regression, canonical correlation, discriminant analysis, MANOVA, and factor analyses in behavioral research are present.
- 643: Multivariate Statistics.** 0-4-3. Advanced multivariate topics including multiple regressions, factor analyses, MANOVA, multi-dimensional scaling, structural equation modeling, path analysis, discriminant analysis, and meta-analyses.
- 650: Practicum in Counseling Psychology.** 3 hours credit (9). May be repeated. Supervised counseling experience within a practicum setting.
- 651: Advanced Practicum in Counseling Psychology.** 1-3 hours credit (9). Preq., PSYC 650 (9 hours total). May be repeated. Progressive development of advanced clinical skills within an approved practicum setting. Counseling Psychology PhD students only.
- 652: Field Placement in Practicum Setting.** 1-3 hours (18). May be repeated. PSYC 650 & 651 (three quarters each), Counseling Psychology PhD students only. Advanced practicum in a field setting.
- 660: Dissertation Research.** 1-3 hours credit. Proposal, research, and defense of original doctoral-level research study. May be repeated each quarter for 3 credit hours per quarter. Minimum credit allowed is 6 hours. Enrollment is minimally required during the term in which the dissertation proposal is defended and the term in which the dissertation research is defended.

QUANTITATIVE ANALYSIS (QA)

- 233: Basic Business Statistics.** 0-3-3. Preq., MATH 111 or 125. Descriptive statistics, probability, sampling distributions, confidence intervals, inference, and regression and correlation. Emphasis is given to business applications.
- 390: Quantitative Methods for Business and Economics.** 0-3-3. Preq., junior standing. Presentation and review of pertinent quantitative topics to

furnish the necessary background for the graduate quantitative methods field of study.

- 430: Management Science Methods.** 0-3-3. Preq., MGMT 333. Linear programming including sensitivity analysis, the transportation problem, inventory analysis, and PERT.
- 432: Intermediate Business Statistics.** 0-3-3. Preq., QA 233. Applied statistical methods utilizing the computerized Statistical Analysis System; multiple regression and correlation, Chi-Square, analysis of variance, and non-parametric methods. (G)
- 522: Advanced Business Statistics.** 0-3-3. Preq., QA 432. Applied statistical methods utilizing the computerized Statistical Analysis System (SAS); multiple regression and correlation, biased regression, analysis of variance, multiple comparisons, and non-parametric methods.
- 525: Quantitative Approaches for Decision-Making.** 0-3-3. Preq., QA 233 and QA 390 or consent of instructor. Survey of the quantitative and statistical methods for managerial decision making.
- 540: Advanced Management Science Methods.** 0-3-3. Preq., QA 430 or consent of instructor. Quantitative decision-making including linear, integer and parametric programming; project planning and scheduling with CPM/PERT and MAP as applied to business management.
- 550: Directed Study in Quantitative Analysis.** 1-3 hours credit. Hours and credits to be arranged. Consent of instructor and approval of department head required. Special problem or specific area of quantitative analysis.
- 605: Methods of Business Research.** 0-3-3. Preq., QA 522 or consent of instructor. Formulation of statistical hypotheses germane to business research. Determination of the experimental conditions and extraneous conditions. Methods of measurement and the statistical analysis required.
- 610: Multivariate Statistics: Business Applications.** 0-3-3. Preq., QA 522. Regression extensions, canonical correlation, multivariate ANOVA, discriminant, business applications, principal components using SAS, SPSS, and BMD, factor and cluster analysis.
- 620: Seminar in Management Science.** 0-3-3. Study of current topics in the discipline of Management Science. In-depth analysis of a specialized field along with an investigation of the literature.
- 622: Advanced Business Statistics.** 0-3-3. Preq., QA 432. Requires Doctoral standing. May require additional class meetings. Applied statistical methods utilizing the computerized Statistical Analysis System (SAS); multiple regression and correlation, biased regression, analysis of variance, multiple comparisons, and non-parametric methods. Credit will not be given for QA 622 if credit is given for QA 522.
- 640: Advanced Management Science Methods.** 0-3-3. Preq., QA 430 or consent of instructor. Requires Doctoral standing. May require additional class meetings. Quantitative decision-making including linear, integer and parametric programming; project planning and scheduling with CPM/PERT and MAP as applied to business management. Credit will not be given for QA 640 if credit is given for QA 540.
- 650: Directed Study in Quantitative Analysis.** 1-3 hours credit. Hours and credits to be arranged. Consent of instructor and approval of department head required. Special problem or specific area of quantitative analysis.
- 685: Comprehensive Exam in Quantitative Analysis.** No credit. Doctoral standing required. Required for all business administration doctoral students seeking to take the comprehensive exam in quantitative analysis. Successful completion is a prerequisite to the oral comprehensive exam for those seeking a primary field or examined minor in quantitative analysis. Requires consent of graduate director.

READING (READ)

- 099: Developmental Reading.** 0-3-3. Builds reading fundamentals that are essential for comprehension of college-level textbooks. Develops skills in word recognition, comprehension, functional reading, vocational, library and reference skills. (Pass/Fail)
- 200: Reading Skills Improvement.** 0-3-3. This course is designed to assist any student who would like to improve basic reading skills. Emphasis on comprehension, concentration and speed.

RUSSIAN (RUSS)

- 101: Elementary Russian I.** 0-3-3. Introduction to contemporary spoken and written forms of Russian; emphasis on communicative competence.
- 102: Elementary Russian II.** 0-3-3. Preq., RUSS 101. Continuation of introduction to contemporary spoken and written forms of Russian; emphasis on communicative competence.