Courses of Instruction

Following certain course descriptions in this catalog are the designations: F, Sp, Su, A-O, A-E, E. These indicate the semesters Fall, Spring, Summer, Alternate Odd Academic Years, Alternate Even Academic Years, or Every Semester in which a course is normally offered and are intended as an aid to students planning their programs of study.

ACCOUNTING (009)

201 Principles of Financial Accounting (3) Introduction to financial accounting theory and practice with emphasis on the role of financial information in business decisions. Prerequisite to all other courses in Accounting.

202 Principles of Managerial Accounting (3) Introduction to managerial and cost accounting concepts with emphasis on uses of accounting data by managers in planning operations, controlling activities, and decision making. Prerequisite: 201.

311 Accounting for Primary Business Activities (3) Study of financial accounting for the primary activities of a business corporation; primary financial statements; inventory; accounts payable; cost of goods sold; debt and equity financing; investing; Prerequisite: 202. Prerequisite or Corequisite: Finance 301 and Management 201.

321 Cost and Managerial Accounting (3) Analysis of costing for products, projects, and management control. Topics include cost behavior, cost prediction, budgeting, and responsibility accounting. Prerequisite: 202. Prerequisite or Corequisite: Management 203.

341 Accounting Information Systems (3) Development and use of accounting information systems for collection, organization, and distribution of economic information about organizations for internal and external decision making. Prerequisite: 202. Management 203. Junior standing. Major exam may be given during the last class meetings.

411 Financial, Compliance, and Operational Auditing (3) Role of auditing in society from an internal and external perspective, the IIA Code of Ethics, the IIA Standards for the Professional Practice of Internal Auditing, auditing methods, internal control and statistical sampling in auditing, fraud auditing, operational auditing, compliance auditing, and applications of auditing procedures to specific transaction cycles. Prerequisite: 202.

414 Non Business Entities: Acquisitions; Mergers; and Foreign Operations (3) Accounting for entities other than primary business entities; information systems and transactions of governmental and nonprofit entities; acquisitions and mergers of business entities; transactions with foreign entities; risk management transactions; foreign subsidiaries. Prerequisite: 311 with a C or better.

415 Governmental and Nonprofit Accounting (3) Advanced study of governmental and nonprofit entities. Governmental accounting principles, revenues and expenditures, budgeting, and financial reporting. Accounting principles and reporting models of nonprofit organizations. Integration of economic and social issues with governmental and nonprofit organizations. Prerequisite: 414 or permission of the instructor.

431 Federal Income Taxation (3) Fundamentals of gross income, deductions, credits, and tax determination. Introduction to taxation of corporations and partnerships. Prerequisite: 311 with a C or better, or consent of instructor.

451 Operational Auditing and Consulting (3) Auditors might use to evaluate an entity's efficiency and effectiveness in a variety of settings and techniques auditors might use in consulting to provide the entity a competitive advantage.

ADVERTISING (012)

250 Advertising Principles (3) Survey of the role of advertising in American business and society. Relationship between advertising and marketing; functional components of the advertising process: research, media, creative, and management.

340 Advertising Research Methods (3) Secondary data and primary research techniques for advertising decisions. Prerequisite: 250 and Statistics 201.

350 Advertising Creative Strategy (3) Basic concepts of creative strategy with intensive practice in developing creative platforms, writing and designing advertisements, and judging creative work. Prerequisite: 250, Communications 100 or Speech Communication 100.

360 Advertising Media Strategy (3) Assessment of markets, vehicle audiences and mathematical techniques for advertising planning. Instruction in media planning, buying, and evaluation. Prerequisite: 340.

380 Advertising Professional Seminar (1) Exploration of career choices in mass communications. Resume and letter writing, interviewing, and portfolio preparation. Prerequisite: Progression as a major in the Department of Advertising.

450 Advertising Management (3) Case-study approach to advertising decisions. Data analysis and interpretation, generating alternative strategies, oral and written presentation of recommendations. Prerequisite: 330 and 360.

470 Advertising Campaigns (3) Group-based development, execution and evaluation of an advertising campaign for a regional or national client. Prerequisite: 450.

480 Advertising Issues (3) Examination of the role of advertising in society and controversies surrounding economic, social, cultural and ethical aspects of advertising. Emphasis on written and oral exposition of different viewpoints. Prerequisite: 340. F, Sp

490 Special Topics (3) Detailed study of a specialized area of advertising. Topics vary by semester and include advanced advertising strategy, advanced creative strategy, direct marketing, and multicultural advertising.

492 Advertising Practicum (1) Experience in a functional area of advertising. Ten hours laboratory each week. May be repeated once. Prerequisite: Progression as a major in the Department of Advertising. Satisfactory/No Credit.

493 Independent Study (1-3) Individual study in a specialized area under the supervision of a faculty member. Prerequisite: Consent of instructor.

AFRICAN AND AFRICAN-AMERICAN STUDIES (022)

201 Introduction to African-American Studies (3) Multidisciplinary approach to the African-American experience through the Civil War period which examines such issues as traditional African societies, the institution of slavery, the development of African-American culture, the beginnings of African-American protest tradition, and the Civil War and Reconstruction.

202 Introduction to African-American Studies (3) Multidisciplinary approach to the African-American experience through the Civil War period which examines such issues as traditional African societies, the institution of slavery, the development of African-American culture, the beginnings of African-American protest tradition, and the Civil War and Reconstruction.

235 Introduction to African Studies (3) Multidisciplinary approach to the study of African traditions, cultures, religions, political economies, pre-colonial democracies, and states from the first through the sixteenth century.

236 Introduction to African Studies (3) The Multidisciplinary study of Africa and its incorporation into the world economy between the sixteenth and the twentieth century. Includes the rise of nationalism, post-colonial dependency, contemporary problems, and current liberation struggles in various areas of the continent.

300 Introduction to African-American Music (3) (Same as Music History 310.)

315 African-American Anthropology (3) (Same as Anthropology 315.)

319 Caribbean Cultures and Societies (3) (Same as Anthropology 319 and Latin American Studies 319.)

343 Race and Ethnicity (3) (Same as Sociology 343.)

350 History of Jazz (3) (Same as Music History 350.)

352 African-American Religion in the United States (3) (Same as Religious Studies 352.)

353 Topics in African-American Religion (3) (Same as Religious Studies 353.)
AGRICULTURAL AND EXTENSION EDUCATION (042)

201 Field Experience in Agricultural Education (1)
Field experience in public school programs in agricul-
tural education. Satisfactory/No Credit grading only. Prereq: Consent of Instructor. May be repeated. F, Sp.

346 Agricultural Experience, Leadership and Adult Programs (3) Development and conduct of exper-
ience programs, conducting leadership development activities through the Future Farmers of America. Role and methods for adult education in agriculture. F

346 Strategies for Teaching and Program Planning in Agriculture (3) Selection and utilization of teaching techniques for teaching agriculture, preparing teaching plans and courses of study, and developing programs of activities for agriculture. F

411 Fundamentals of Agricultural Extension (3) His-
story; philosophy; organizational structure; clientele served; major areas of program emphasis-teaching methods, and relationships with other educational agen-
cies. Sp.


492 Agricultural and Extension Education Intern-
ship (2-8) Supervised work experience in approved county Extension and Area or urban Extensions, or agricultural related agencies. (Requires living off-cam-
pus for a specified time.) Prereq: 411 and consent of instructor. Sp, Su.

493 Independent Study (1-3) Individualized study of a special problem related to agricultural education. Must be selected in consultation with the instructor. Prereq: Consent of Instructor. May be repeated for credit. Maximum 6 hours. E

AGRICULTURAL ECONOMICS (047)

110 Opportunities in Agricultural Economics and Business (3) Trends in current issues and career opportunities. For majors and non-majors. Satisfactory/No Credit grading. F

210 Introduction to Agricultural Economics (3) Ap-
plication of economic principles of demand, supply, price determination, to articulating market behavior, natural resources, rural community development, and international trade and development. Economic as-
pects of current issues and problems associated with production, marketing, consumption, resource use, and government intervention in the agricultural, rural, and international sectors. Prereq: Economics 201. F, Sp.

320 Agricultural Microeconomics (3) Application of microeconomics to agriculture. Production, consump-
tion, firm behavior, and efficiency in the food and fiber industries. Prereq: Economics 201. F

342 Farm Business Management I (3) Principles and procedures for determining optimum levels of production and income in farm enterprises. Analysis of farm operations and systems of operation; attention to traditional and nontraditional agricultural enterprises and businesses; nature of managerial processes; busi-
ness records and their uses; budgeting; acquisition and management of capital, land, labor and machinery; farm business planning. Prereq: Economics 201 and Junior standing. Sp.

350 The Agricultural Marketing System (3) Survey of U.S. food and fiber marketing system; marketing func-
tions; industry structure; market channels; marketing options of farmers; basic analysis of marketing prob-

365 Agribusiness Marketing and Professional Sell-
ing (3) Role of marketing in the agribusiness organiza-
tion, planning marketing efforts, and the strategic-selling process. Topics include market research, com-
tunities, targeting, marketing mix, and personal selling in agribusiness. Prereq: Economics 201.

410 Seminar in Agricultural Economics and Busi-
ness (1) Primarily for Agricultural Economics and Business majors in their senior year. Analysis of con-
temporary problems in the field. Discussion of career objectives, opportunities, and placement process. As-
signments for written and oral presentation. F

412 Agricultural Finance (3) Macro-finance, financial objectives, acquisition of debt and equity funds, capital investments, cash flows, open market operations, credit analysis, borrower and lender loan application analysis, insurance strategies, computer applications, kinds and sources of agricultural credit, financial intermediation. Prereq: Economics 201. Sp.

420 International Agricultural Trade and Marketing (3) Introduction to real and monetary aspects of interna-
tional trade, effect on agriculture, trade flows, international trade, partial equilibrium analysis of international trade in agricultural products, institutional aspects of interna-
tional marketing of agricultural products. Prereq: 320 or consent of instructor: F

430 Agricultural Policy (3) Values, goals and policy process. Economic rationale and effects of policy. His-
torical development and current characteristics of com-
modity, credit, food, and trade policy. Prereq: 320 or consent of instructor. Sp.

442 Agribusiness Management (3) Applications of advanced decision analysis concepts and tools to anal-
ize management decision problems in farm and non-
farm agribusiness settings. Includes high school and post

450 Agricultural Price Analysis (3) Analytical tools for decision making in the agricultural sector; analysis of commodity supply and demand conditions; economic modeling; market forecasting; analysis of temporal and spacial patterns. Prereq: 350 and Statistics 201 or consent of instructor.

470 Natural Resource Economics (3) Nature of natural resources; economic efficiency as a basis for natural resource use; externalities in natural resource use; fact-
ors affecting environmental quality; alternative public policy tools for influencing natural resource use or im-

492 Off-Campus Internship (1-3) Pre-approved super-
vised experience with firm or organization in the field. May be repeated for a different experience up to a maximum of 6 hours. Prereq: Junior standing or con-
sent of advisor. S/N/C.

493 Independent Study (1-3) Directed individual or team research and report writing. Special courses in specific topics. Student must arrange with instructor before registering. May be repeated up to a maximum of 6 hours. Maximum 6 hours. Prereq: Junior standing. E

AGRICULTURAL AND NATURAL RESOURCES (088)

101 Perspectives in Agricultural and Associated Natural Resources (3) Historical development, current national and international issues, and trends for the future. 3 hours.

290 Computer Applications to Problem Solving (3) Use of computer technology to analyze and solve problems related to agricultural sciences and natural resources. The use and integration of computer applica-
tions such as spreadsheets, databases, presentation graphics, word processing, and other applicable soft-
ware as needed for problem analysis and reporting. Prereq: Satisfactory performance on a skills/placement test. For details, see advisor. 2 hours and 1 lab. F,Sp.

317 Agriculture and Natural Resources Scholars Semi-
nar (1) Discussion of selected topics, issues and prob-
lems influencing national and international food, agricul-
ture and natural resources systems. Primarily for Col-
lege Scholars students. May be repeated. Maximum of 6 hours. Satisfactory/No Credit. F, S.

320 The Employment Process (1) Assist student in developing job career blueprint for agriculture job markets. Techniques to obtain employment including recruitment/placement services, resume construction, personal interviewing, job offer evaluation and analysis.
303 Food, Forests and the Environment (3) Overview of the environmental benefits that have been, are, and will be required to provide the tasks for food, fiber, and other products needed to feed, cloth and house a growing world population. Topics include basic natural resource, current practices in agriculture, forestry, and food handling, and practice related to quality of life issues, such as wildlife and landscape design. This course may be taken for credit by College of Agricultural Sciences and Natural Resources students to satisfy directed elective requirements.

491 International Experience in Agriculture and Natural Resources (1-15) Credit for formalized international experiences related to agricultural sciences and natural resources. Determination of credit based on the length of the proposed experience. Students should discuss the opportunity with their faculty advisor prior to the trip to determine if it is appropriate for credit. Credit hours will be determined by the department and college depending on the type of the project, and/or presentations to be completed by the student upon return. SNC.

AIR FORCE AEROSPACE STUDIES (094)

101-102 The Air Force Today (1,1) AS101 is a survey course that focuses on the organizational structure and mission of the United States Air Force. It emphasizes the role and professionalism of the Air Force and includes an introduction to communication skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies, drill and ceremonies, leadership and professional development is mandatory. 103-104 Leadership Laboratory (1,1) Leadership Laboratory includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instruction, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.

201-202 The Development of Air Power (1,1) AS201 focuses on factors contributing to the development of air power from its earliest beginnings to two world wars; the evolution of air power concepts and doctrine; and a assessment of the role of communication skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies, Air Force environment, drill and ceremonies, and field training orientation is mandatory.

203-204 Leadership Laboratory (1,1) Leadership Laboratory includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instruction, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.

205 Field Training (Academic Program) (1,4) Role of United States military forces in contemporary world, with particular attention to the United States Air Force, its organizations and their various component force each of the United States Air Force, organization and their various component forces of U.S. military power; organization of America's defense structure, policies of major powers, and elements and processes of decision making of defense policy. Conducted at Field Training bases throughout the country. Open only to two-year program applicants.

301-302 Air Force Leadership and Management (3,3) AS301 is a study of the leadership and management of the United States Air Force. The focus is on the organization and leadership skills required in the United States Air Force. Case studies are used to examine Air Force leadership and management. As a means of demonstrating and exercising practical application of the concepts being studied. A mandatory weekly Leadership Laboratory (LLAB) provides advanced leadership experience in office-type activities and gives students the opportunity to apply leadership and management principles to this course.

303-304 Leadership Laboratory (0,0) Leadership Laboratory consists of advanced leadership experiences. They involve planning, organizing, staffing, coordinating, directing, and controlling the military activities of the cadet corps. Preparation and presentation of briefings and seminars with the educational content of the cadet corps; and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.

401-402 National Security Forces in Contemporary America (3,3) AS400 examines the need for national security, analyzes the evolution and formulation of defense policy, strategy, and joint doctrine; investigates the methods for managing conflict, and explores national security, arms control, and terrorism. Special topics of interest focus on the military as a profession, the military legal system, and current issues affecting military professionalism. Within this structured, continued emphasis is given to the refinement of communication skills. A weekly Leadership Laboratory (LLAB) consisting primarily of advanced leadership experiences in office-type activities is mandatory.

403-404 Leadership Laboratory (0,0) Leadership Laboratory consists of activities classified as advanced leadership experiences. They include planning, organizing, staffing, coordinating, directing, and controlling the military activities of the cadet corps; preparation and presentation of briefings and seminars with the educational content of the cadet corps; and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.

AMERICAN STUDIES (099)

310 Introduction to American Studies (3) Explores the development and nature of the culture and society of the United States. An introduction to the study of American society, its past and present, and its place in the world. Includes an introduction to the study of American society, its past and present, and its place in the world. Includes an introduction to the study of American society, its past and present, and its place in the world.

312 Popular Culture and American Politics (3) Same as Political Science 312.

334 Film and American Culture (3) Same as Cinema Studies 334 and English 334.

343 Rage and Ethnicity (3) Same as Sociology 343.

345 Collective Behavior and Social Movements (3) Same as Sociology 345.

355 Religion and Culture in the United States (3) Same as Religious Studies 355.

361 Introduction to Folklore (3) Same as English 381.

410 Topics in American Culture (3) Content varies. May be repeated once.

420 Political Attitudes and Opinions (3) Same as Political Science 420.

423 Geography of American Popular Culture (3) Same as Geography 423. Primary department is Geography.

440 America: Society and Record (3) Same as History 440.

442 American Humor (3) Same as English 442. Primary department is English.

450 Seminar in American Studies (3) Intensive study of a major issue in American Studies scholarship.

450 History of Sports in the United States (3) Same as History 450.

469 Foods of Speech (3) Same as Speech Communication 469.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

ANCIENT MEDITERRANEAN CIVILIZATIONS (101)

366 Ancient Near Eastern Civilization (3) Same as History 366.

381 Greek Civilization (3) Same as Classics 381.

382 Roman Civilization (3) Same as Classics 382.

400 Special Topics (3) May be repeated. Maximum 6 hours.

491 Foreign Study (1-15) Registration by permission of the chair of Ancient Mediterranean Civilizations. May be repeated for a maximum of 15 hours.

ANIMAL SCIENCE (113)

101 Orientation to Animal Science (1) For Animal Science majors and Animal Science Prevet students in their first year. Discussion of student services, activities, and careers; student participation in planning the college experience. Satisfactory/no Credit. S, F.

220 Anatomy and Physiology of Farm Animals (3) Skeletal and joint anatomy, endocrine and digestive systems; demonstrations of physical and mucus membranes. Prereq: Biology 120. 2 hours and 1 lab. F, S.


267 Farm Animal Management Practices (3) Integration of animal, nutrition, health, management, and marketing concepts into cattle, horse, poultry, sheep, and swine enterprises. Application of animal knowledge, handling, animals, feed, facilities, feeding, and management practices. Includes age and sex determination, pre- and postnatal care, identification, dehorning, castration, disbudding, interaction, feeding, grooming, and marketing. Prereq: Animal Science 120. 2 hours and 1 lab. S, F.

285 Horse Handling and Care (3) Proper procedures for horse-human interaction and the recommended management procedures for horse care. The basic behavioral characteristics of horses, including the use of general handling techniques, routine vaccinations and first aid. Safety for horse and handler will be emphasized. 3-2 hours labs. F.

320 The Physiology of Reproduction and Lactation (3) Biology of swine and sexual differentiation, functional anatomy of the male and female reproductive systems, gametogenesis, neuroendocrinology and endocrinology of reproduction and lactation, sex hormones, folliculogenesis, ovulation, pregnancy, fertilization, embryonic development, implantation, pregnancy, parturition, lactation and maintenance of the dry period, artificial control of reproduction and lactation. Prereq: Biology 120. 2 hours and 1 lab. S, F (Same as Zoology 322).

330 Animal Nutrition, Feeds, and Ration Formulation (4) Properties, functions, utilization, and deficiency symptoms of essential nutrients and classes of feedstuffs and principles of ration formulation. Prereq: Chemistry 110 or Chemistry 130 and Math 121. 2 lecture, 2 laboratory. S, F.

493 Independent Study (1-15) Registration by permission of the chair of Ancient Mediterranean Civilizations. May be repeated for a maximum of 15 hours.

492 Off-Campus Study (1-15) Registration by permission of the chair of Ancient Mediterranean Civilizations. May be repeated for a maximum of 15 hours.

ANIMAL SCIENCE (113)

220 Anatomy and Physiology of Farm Animals (3) Skeletal and joint anatomy, endocrine and digestive systems; demonstrations of physical and mucus membranes. Prereq: Biology 120. 2 hours and 1 lab. F, S.


267 Farm Animal Management Practices (3) Integration of animal, nutrition, health, management, and marketing concepts into cattle, horse, poultry, sheep, and swine enterprises. Application of animal knowledge, handling, animals, feed, facilities, feeding, and management practices. Includes age and sex determination, pre- and postnatal care, identification, dehorning, castration, disbudding, interaction, feeding, grooming, and marketing. Prereq: Animal Science 120. 2 hours and 1 lab. S, F.

285 Horse Handling and Care (3) Proper procedures for horse-human interaction and the recommended management procedures for horse care. The basic behavioral characteristics of horses, including the use of general handling techniques, routine vaccinations and first aid. Safety for horse and handler will be emphasized. 3-2 hours labs. F.

320 The Physiology of Reproduction and Lactation (3) Biology of swine and sexual differentiation, functional anatomy of the male and female reproductive systems, gametogenesis, neuroendocrinology and endocrinology of reproduction and lactation, sex hormones, folliculogenesis, ovulation, pregnancy, fertilization, embryonic development, implantation, pregnancy, parturition, initiation of lactation and maintenance of the dry period, artificial control of reproduction and lactation. Prereq: Biology 120. 2 hours and 1 lab. S, F (Same as Zoology 322).

330 Animal Nutrition, Feeds, and Ration Formulation (4) Properties, functions, utilization, and deficiency symptoms of essential nutrients and classes of feedstuffs and principles of ration formulation. Prereq: Chemistry 110 or Chemistry 130 and Math 121. 2 lecture, 2 laboratory. S, F.

493 Independent Study (1-15) Registration by permission of the chair of Ancient Mediterranean Civilizations. May be repeated for a maximum of 15 hours.

492 Off-Campus Study (1-15) Registration by permission of the chair of Ancient Mediterranean Civilizations. May be repeated for a maximum of 15 hours.
380 Animal Health Management (3) Characteristics, symptoms, prevention, and treatment of major diseases and parasites; health management; and herd health programs for all farm livestock species and poultry. Prereq: AS220. 2 hours and 1 lab. Sp

381 Animal Production Systems (3) Fundamentals of production and management systems in beef, dairy, pork, and poultry industries; principles of nutrition, breeding, and marketing into enterprise systems. Decision making management practices and information resources, enterprise evaluation, and comparison of production systems. 2 hours and 1 lab. No credit for majors. F

400 Companion, Zoo and Lab Animal Management (3) Principles of nutrition, physiology, breeding, handling, and history of breeds of common household pets, zoo animals and associated diseases. Specific species requirements and peculiarities. Laws and agencies governing use of laboratory animals. Laboratory animal facilities commonly used to monitor health and nutritional status. Prereq: Consent of instructor. 2 lectures and 1 lab. Sp - AE

402 Animal Science Field Study (1-6) Off-campus work experience approved by the department. Objective is to complete a traditional classroom activity and give the student an opportunity to gain experience in industry. Students must submit official approval form prior to registration. They must seek knowledge and skills and submit a written summary after program completion. E

493 Independent Study in Animal Science (1-3) Approved supervised study in areas not normally presented in a course offered in the department. Written proposal of study is approved by the Department of Animal Sciences Undergraduate Committee. After completion of study, a written report is required and the report is maintained on file in the reference room of the department. May be repeated for a maximum of 6 credits. Prereq: Senior standing and consent of instructor and department head. E

494 Animal Science Teaching Assistant (1) Assist the primary instructor in laboratory instruction and demonstrations. Prereq: Consent of the instructor and Department Head. SNC. E

495 Seminar (1) Review of literature and oral and written presentation on special topics and current research in Animal Science field. Prereq: Senior standing. One 2 hour lab. F, S, S, F

496 Veterinary Medical Technology (1) For Animal Science and/or Veterinary Medicine Majors only. Consent of the Instructor and completion of at least 60 credit hours. Students will observe and assist clinicians in the College of Veterinary Medicine as they carry out day to day activities in the large and small animal clinics. One lab. Sp

ANTHROPOLOGY (122)

110 Human Origins (3) Survey of humanity’s back- ground, fossil hominids, fossil human remains, and living races of humankind.

120 Prehistoric Archaeology (3) Introduction to methods and techniques used to identify and date archaeological cultures, reconstruct past lifeways and describe cultural evolution. Origin of early humans, African, Western Europe, Southwest Asia, and the Americas from earliest dated human cultures to rise of complex civilization.

130 Cultural Anthropology (3) Major concepts and methods in the study of culture; survey of cross-cultural similarities and differences in subsistence, social organization, economic, political, and religious institutions, language, ideology and arts. Contributions of anthropology to resolving contemporary human problems.


302 Anthropology of Religion (3) (Same as Religious Studies 302.)

306 Genetics and Society (3) (Same as Botany 306.)

310 North American Indians (3) Comparative overview of Indian cultures of North America. Topical coverage ranges from prehistoric and aboriginal lifeways to problems resulting from contact and acculturation. Writing-emphasis course.

311 Southeastern Indians (3) Survey of Southeastern American Indian cultures at the time of European contact. Emphasis on Cherokee culture and on the social, economic, and religious life of the various sociocultural groups. Prereq: 130 or consent of instructor.

312 Appalachian Culture (3) Traditional Southern Appalachian subsistence patterns and economies, social organization, belief systems, and influences of both sociocultural and impinging events. Prereq: 130 or consent of instructor.

313 Peoples and Cultures of Mesoamerica (3) Pre-Columbian and contemporary cultures of Mexico, Guatemala, Belize, El Salvador and Honduras. Patterns of cultural interaction and development throughout Mesoamerica’s history. Prereq: 130 or consent of instructor. (Same as Latin American Studies 313.) Writ- ing-emphasis course.

315 African-American Anthropology (3) Anthropologi- cal, historical, and sociopolitical perspectives on the African-American experience. Study of persons of African descent in North America, South America, and the Caribbean. Prereq: 130 or consent of instructor. (Same as Latin American Studies 315.)

319 Caribbean Cultures and Societies (3) Anthropo- logical approaches to key aspects of Caribbean history: sociocultural pluralism, racial and class stratification, patterns of economic development, and local and national-level political processes. Prereq: 120 or consent of instructor. Writing-emphasis course. (Same as African American Studies 319 and Latin American Studies 319.)

320 American Cultures (3) Anthropology in the study of our own society, including such topics as ethnic communities, social classes, power structures, etc. Writing-emphasis course.

321 Indians of Northwest North America (3) Survey of Indian cultures found in the Northwest Coast, Columbia Plateau, and Northern Great Basin culture areas. Writing-emphasis course.

357 Junior Honors in Anthropology (3) Analytical, integrative review of at least 200 pages of research and theory in Anthropology. Open to students with an overall GPA of 3.2 who have fulfilled progression requirements to declare a minor in Anthropology.

380 North American Prehistory (3) Prehistoric cultures of North America from initial occupation of the continent to European contact. Writing-emphasis course.

381 Historical Archaeology (3) Historical archaeology of Euro-American, African-American, and Asian American cultures in the United States from 15th to 20th centuries.

382 Principles of Archaeology (3) Research strategies used in developing method and theory, constructing cultural histories, identifying site function and settlement-subsite patterns, and evaluating explanations of cultural change. Prereq: 120 or consent of instructor.

383 Prehistory of Tennesse (3) Archaeological principles and theory illustrated in history of archaeological research in Tennessee and through survey of prehis- toric Indian cultures from initial occupation of the state to European contact. Recommended: 360. Writing-emphasis course.

383African Religions (3) (Same as Religious Studies 373 and African-American Studies 373.)

403 Readings in Anthropology (1-6) Problem-oriented directed readings in anthropology. Prereq: Anthropology Majors only. May be repeated for a maximum of 6 credits. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

410 Principles of Cultural Anthropology (3) Exploration and illustration of major concepts, theories, and methods in cultural anthropology, with application to analysis of specific ethnographies. Prereq: 130.

411 Linguistic Anthropology (3) Basic linguistic concepts applied to research in cultural anthropology, particularly investigation of relationships between language and culture. Prereq: 130 or 200. (Same as Linguistics 411.)

412 Folklore in Anthropology (3) Introduction to anthropological study of folklore, using folklore and folklore materials from various tribal, peasant, and complex societies. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

413 Dynamics of Culture (3) Definition and in-depth study of major forms of culture change, ranging from evolution and diffusion to political factors that influence cultural production and reproduction. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

414 Political Anthropology (3) Examination of the organization and dynamics of power and politics in both state and non-state level societies. Theoretical frameworks and methods used in the study of political behaviors and institutions. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.
341 Environmental Control Systems I (4) Heating, ventilating, and air-conditioning systems, including passive systems, and energy systems. Planning and fire protection systems. Prereq: 231 and 232. F


343 Principles of Environmental Control I (3) Introduction to heating, ventilating, air conditioning, solar energy, and refrigeration systems. Prereq: 180 and M. Arch. Admission

346 Principles of Environmental Control II (3) Introduction to electrical design and wiring, lighting and acoustics in buildings. Prereq: 180 and M. Arch. Admission


403 Introduction to Preservation (3) History, theory, and legal aspects of architectural preservation and restoration.

404 Preservation Technology (3) Techniques of preservation: methods of analysis, history of materials and technology used in old buildings. Prereq: 403.

405 Descriptive Analysis of Historic Buildings (3) Identification and analysis of characteristic features of buildings from various architectural periods, with emphasis on American architecture. Survey techniques.

406 Ideas in Architecture (3) Historical and critical review of the major ideas of architecture through the ages. Open to all students.

410 History and Theory of Urban Form (3) Patterns of community development. Selected historical and contemporary examples. Basic urban design issues and exemplary design approaches examined through lectures, readings, essays, and studio studies including historical change in urban form and design.

412 Non-Western and Indigenous Architecture (3) Building responsive to climate, material availability, and economic level, as designed by anonymous builders. Examples from prehistoric times to the present including the Siberian, Inuit Valley, Hindu, Buddhist, and Mughal architecture of India, China, and Japan.

413 Tennessee Architecture (3) History of settlement patterns and building in Tennessee. Selected examples examined through reading assignments, lectures, discussions, and field trips. Historical research using primary material.

414 History of Architectural Technology (3) Building materials and construction techniques from antiquity to the present.

415 Medieval Architecture (3) History of architecture from the decline of Rome to the beginning of the Renaissance. (Same as Medieval Studies 415.)

417 The International Style (3) A survey of architecture of the early modern movement, primarily in Europe and America, covering the years 1900 to 1940.


420 American Architecture, 1840-1940 (3) Stylistic periods from the Gothic Revival through the Twentieth Century.

421 History of Landscape Architecture (3) Intercultural, interregional, and geographical influences which provide the theoretical foundation for design throughout history. Selected examples of landscape architecture analyzed in terms of design.

422 Modern East European Architecture (3) Twentieth century architecture in Russia, Czechoslovakia, Poland, Hungary, East Germany, Rumania, Bulgaria, Yugoslavia.

425 Special Topics in Architecture (1-6) Faculty-initiated courses. Topics vary. May be repeated. Maximum credit 12 hours. Prereq: consent of instructor. E

431 Structural and Mechanical Applications (3) Case study analysis and selection of structural and mechanical systems, investigating the conceptual integration of technical information into a unified design solution. Prereq: 332, 342. Coreq: 471. F

432 Computer Applications in Design II (3) Advanced computer-aided design using three-dimensional modeling software. Computer animation, rendering techniques, visualization, and video. Prereq: 231. Sp

433 Computer Applications in Design III (3) Advanced course that integrates three-dimensional modeling and technical analysis using computer-aided design to augment building design, independent studies under faculty direction. Prereq: Consent of instructor. Sp

443 Building Energy Analysis (3) Balancing heat flow through external envelopes of buildings and large and small commercial buildings; location, climate evaluation; siting, building size and orientation, window area, wall treatment, infiltration control. Energy use quantification methods and economic analysis of energy efficient design features. Architectural program analysis of external and internal load-dominated buildings. Prereq. 341.

444 Advanced Environmental Control Systems (3) In-depth analysis of advanced design concepts in design of heating, ventilating, and air conditioning. Prereq. 341.

445 Advanced Lighting (3) In-depth analysis and innovative concepts in design of lighting. Prereq: 342.


472 Architectural Design VI (6) Order and form in complex buildings developed to address programmatic, structural, energy and environmental issues. Prereq. 471. Sp

473 Architectural Photography (3) Photography as a design, research, and presentation medium. Application of photographic techniques, printing and processing. Color, black and white.

480 Comprehensive Design Project I (2) Project selection and preparation for Architecture 482. Formulation and documentation of hypotheses. Preparation of background and program information. Goals and concepts set forth. To be taken semester immediately preceding 482. F

481 Advanced Architectural Design Topics (6) Faculty-initiated design projects. Advanced architectural topics not covered under 483, 484, 485, 486, or 489. Prereq: 471. F

482 Comprehensive Design Project II (6) Student selected project under faculty direction. Exploration of design hypothesis which informs the character of a substantial building design. (See Architecture 480.) Completed project will address all issues of environment, structure, enclosure, use, and ethical considerations of design appropriately. Design is expected to stand up to rigorous scrutiny regarding strengths of idea, economy of means, durability, validity for stipulated use, quality of cultural expression, and character of setting. Prereq: 480 and satisfactory completion of all design courses. Sp

483 Urban Design (6) Urban design projects responding to specific community conditions. Exploration of urban issues and the understanding of the architecture of the city. Prereq: 471. F


485 Development and Design (6) Exploration of image making, consumerism and the allocation of scarce resources. Issues of finance, economics, urban economics, and marketing are analyzed in relation to urban and architectural design. Application of financial feasibility models. Prereq: 471 and 482, or consent of instructor. F

486 Design of Sustainable Architecture (6) Architectural design studio emphasizing concern for the environment, consideration of energy conservation techniques, and use of renewable resources. Prereq: 471. F


491 Foreign Study (1-15) Research and design projects conducted in various locations abroad. Prereq: 471.

492 Off-Campus Study (1-15) Studies conducted under direction of architect or expert in an allied profession, in service to public service organizations or agencies of government, and public groups. Not a Design Course elective.

493 Independent Study in Architecture (1-6) Individual studies and projects under faculty direction. Prereq: 471, consent of instructor. May be repeated once. Prereq: consent of instructor.

494 Foreign Studies Sketchbook (1-3) Investigations of historic urban fabric and architecture in various locations abroad. Analysis and sketch records in sketchbook format required. Lecture and field trips related to Krakowian, Polish, and European architecture and urban traditions.

498 Fine Arts Studies in Krakow (3) Studio meets in Krakow, Poland. Design studies responding to specific community conditions in an European city.

499 Sketchbook Study of Architecture in Central Europe and Krakow (3) Analysis and sketch records in sketchbook format required. Lecture and field trips related to Krakowian, Polish, and European architecture and urban traditions.

500 Fine Arts Studies in Krakow (3) Fine arts investigations related to architectural design.

ART (140)

101 Studio Fundamentals: Drawing and Design (2) Introduction to basic drawing media, concepts and techniques and to the elements and principles of pictorial organization.

103 Studio Fundamentals: Three Dimensional Design (2) Projects dealing with three dimensional materials. Primarily for art, architecture, art education, and interior design and housing majors.

119 Introduction to Studio Art: Various Media (3) Individual sessions for various disciplines. For non-majors only. Courses may be repeated. Minimum 12 hours.

255 Intermediate Design and Color (3) Further exploration of basic techniques of two-dimensional design, with emphasis on color theory and technique. Prereq: 101, 103.

298 Special Topics (3) Student or instructor-initiated course offered at convenience of department. May be repeated. Maximum 12 hours.

300 Inter-area Portfolio Review (0) Review of student work. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173 with a grade of C or better.

481 Museology I: Museums, Purpose and Function (3) Organization and development of museums of art, history, natural and applied sciences. (Same as Anthropology 481.)

482 Museology II: Exhibition Planning and Installation (3) Exhibition concept development and implementation. Exhibition design and installation techniques. Publicity, production, matting and framing, shipping and storage. Prereq: 481 or consent of instructor. (Same as Anthropology 482.)

483 Museology III: Field Projects (1-12) Special field projects including restoration, preservation, registration, and other related research on or off campus. Prereq: 481 and 482 or consent of instructor. May be repeated. Maximum 12 hours. (Same as Anthropology 483.)
ART CERAMICS (135)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.

221 Ceramics: Handbuilding I (3) Introduction to handbuilding, glazing, clay preparation and firing. Prereq: 101 and 103.


225 Portfolio Practicum - Handbuilding (3) Intense post-introductory studio experience to develop work for application to Ceramics Portfolio Review 320. Art majors only. Not repeatable for credit. Prereqs: 221, 222, and consent of Department.

226 Portfolio Practicum - Throwing (3) Intense post-introductory studio experience to develop work for application to Ceramics Portfolio Review 320. Art majors only. Not repeatable for credit. Prereqs: 221, 222, and consent of Department.

229 Ceramics: Special Topics (3) Student or instructor initiated courses to be offered at convenience of department. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

320 Ceramics: Portfolio Review (0) Review of prior work in ceramics. Successful completion required prior to registration for junior and senior courses. Prereqs: Art History 172 and 173 with a grade of C or better. Coreq: Art Ceramics 222. Satisfactory/No credit only.

321 Ceramics: Handbuilding II (3) Continued investigation of handbuilding with an emphasis on the development of individual ideas and expression. Prereq: 320.

322 Ceramics: Throwing II (3) Continued investigation of throwing with emphasis on the development of individual ideas and expression. Prereq: 320.


422 Ceramics: Advanced Throwing (4) Continued, in depth investigation of ceramic form with an emphasis on the development of individual ideas and expression. Prereq: 320 and 322. May be repeated. Maximum 12 hours.


425 Ceramics: History Seminar (3) Survey of the history of ceramics through lectures and student presentations. (Does not apply toward art history requirement.) Prereq: 320.

426 Ceramics: Kiln Design (3) Designing kilns, traditional and modern refractories, construction methods, and kiln operation. Prereq: 320.

429 Ceramics: Special Topics (3) Student or instructor initiated courses to be offered at convenience of department. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

483 Independent Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

498 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.

ART DESIGN/GRAPHIC (136)

151 Graphic Design History (3) Major movements and pivotal artists/designers and directors, 1850 to the present, and their impact on current graphic design trends. (Cannot be used to fulfill art history requirement.) May be repeated. Maximum 6 hours.

251 Beginning Graphic Design I (3) Introduction to the elements and principles of graphic design, including typography and layout. Survey of graphic design tools, materials, and processes. Prereq: Consent of instructor. May be repeated. Maximum 12 hours. Prereq: Art 101 and 103. Art Design/Graphic 151, all with a grade of C or better.

252 Beginning Graphic Design II (3) Survey of graphic design from concept through production. Emphasis on visual problem-solving. Prereq: 251 with a grade of C or better. Coreq: Art Design/Graphic 252. May be repeated. Satisfactory/No credit only.


352 Intermediate Graphic Design II (3) Investigation of signs, symbols, marks and identity systems. Prereqs: Art Design/Graphic 251 with a grade of C or better.

354 Color Illustration (3) Flat and process color media and production techniques applied to product and editorial illustration. Prereq: 254 and successful completion of any portfolio review.

356 Graphic Design Production (3) Traditional and computer-generated graphic design production of print media in graphic design. Introduction to computer systems, software and techniques.

358 Airbrush Painting (3) Techniques of airbrush painting, skills and creative applications emphasized. Prereq: 351.

405 Computer Enhanced Graphic Design (3) Exploration of new technologies and their significance to graphic design. Prereqs: 351, 356 with a grade of C or better and consent of instructor. May be repeated. Maximum 6 hours.

444 Graphic Design Center Practicum (3) Practical work experience in a student-managed, on-site studio. Prereq: 350 and consent of instructor. May be repeated. Maximum 6 hours.

451 Advanced Graphic Design (3) Theory and techniques of visual problem-solving as applied to advanced applications of graphic design. Prereq: 352 with a grade of C or better.

452 Graphic Design Seminar (3) Discussion of design and professional issues including politics, economics, and ethics for the graphic designer. Culminates in a student-initiated project. Prereq: 451 with a grade of C or better.

453 Advertising Illustration (3) Media and techniques as applied to advertising illustration. Prereq: 254 and successful completion of any portfolio review.

454 Editorial Illustration (3) Media and techniques as applied to editorial illustration for books, magazines, and newspapers. Prereq: 254 and successful completion of any portfolio review.

455 Graphic Design Professional Seminar (3) Professional practices including client relationships, design management, and business practices. Assembly, organization and editing of the professional portfolio. Prereqs: or Coreq: 452.

456 Graphic Design Practicum (3-12) Practical work experience in the graphic design field. Only by pre-arrangement with the department. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

459 Special Topics in Graphic Design (3) Student or instructor initiated course offered at discretion of department. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

493 Independent Study (1-15) Prereq: Consent of instructor.

494 Individual Problems (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.

ART DRAWING (137)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.


212 Drawing II: Life Drawing (3) Development of drawing and observational skills with special emphasis on structure and dynamics of the human figure and of the figure in environment. Prereq: 211. May be repeated. Maximum 6 hours.

219 Special Topics in Drawing/Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

311 Drawing II: Development of personal drawing techniques and concepts through class problems. Prereq: Art History 172 and 173 with a grade of C or better. Coreq: Art Design/Graphic 252. May be repeated. Satisfactory/No credit only.

312 Drawing Portfolio Review (0) Review of prior work in drawing. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173 with a grade of C or better. Coreq: Art Design/Graphic 252. May be repeated. Maximum 6 hours. Total of 8 hours required for students in the Drawing concentration.

411 Drawing IV (6) Individualized pursuit of personal drawing techniques and concepts, supplemented by individual and group critiques and weekly life drawing sessions. Prereq: 8 hours of Art Drawing 311 with a grade of C or better or consent of instructor. May be repeated. Maximum 12 hours. Total of 12 hours required for undergraduate students in the Drawing concentration.

419 Special Topics in Drawing and Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

493 Independent Study (1-15) Prereq: Consent of instructor.

494 Individual Problems (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.
ART EDUCATION (141)

301 Foundation of Art Education (3) Basic philosophy and structure including directed learning activities in two and three dimensional design, art appreciation, and teaching methodology. F, Sp, Su

302 Multiculturalism in Visual Art (3) Selected cognitive and productive experiences involving multicultural visual art. Sp

303 Concepts of Sculpture and Crafts (3) Processes in teaching of sculpture and crafts including pertinent literature and methodology. Prereq: 301, Fs

350 Field Experience (1) Tasks related to teaching and to teacher roles. May be repeated. Maximum 2 hours. Prereq: Admission to Teacher Education Program. Satisfactory/No credit only, F, Sp

400 Curriculum Planning and Teaching Strategies (3) Program development, instructional methods, professional literature, classroom, simulation, and micro teaching situations. Prereq: 301 and admission to Teacher Education Program. Sp

480 Special Topics (3) May be repeated. Maximum 6 hours.

493 Independent Study (3) May be repeated. Maximum 9 hours.

ART HISTORY (139)

172 Western Art (3) Major monuments in Western Art with emphasis on Europe from prehistory through the Middle Ages. Two-hour lecture and one-hour discussion each week.

173 Western Art (3) Major monuments in the history of European and American Art from the Renaissance to the present. Two-hour lecture and one-hour discussion each week.

177 Honors: Western Art I (3) Consent of Department required. Major monuments in Western Art with emphasis on Europe from prehistory through the Middle Ages. Study grounded in reading, writing, and discussion. Writing-emphasis course.

178 Honors: Western Art II (3) Consent of Department required. Major monuments in the history of European and American Art from the Renaissance to the present. Study grounded in reading, writing, and discussion. Writing-emphasis course.

183 Asian Art (3) Art of Central and Southeast Asia, India, China, Korea, and Japan from prehistory through common Buddhist forms and into modern media. Two-hour lecture, one-hour discussion, each week.

279 Special Topics in Art History (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

376 Seminar in Art History (3) Variable theme; emphasis on methodology and skills in writing. Required for Art History major. Junior or senior standing and completion of at least 12 hours in art history, or consent of instructor. May be repeated. Consent of instructor for a maximum of 8 hours. Writing-emphasis course.

403 History of Photography (3) Survey of the history of photography from the introduction of the daguerreotype and calotype to more recent trends. Emphasis will be placed on aesthetics and the use of photography as a medium for artistic expression.

411 Art of Indian Asia (3) History of Indian art with consideration of the art of Central Asia and Southeast Asia. Writing-emphasis course.

415 Chinese Art (3) Survey from pre-Shang Dynasty to contemporary movements in China, Taiwan, and Hong Kong. New discoveries are stressed. Writing-emphasis course.


425 Early Christian and Byzantine Art to 1350 (3) Art in Italy and the Eastern Empire from the beginnings of Christian art to c. 1350. Mosaic and painting, sculpture and architecture, writing-emphasis. (Same as Medieval Studies 371 and Judaic Studies 425.)

431 Medieval Art of the West, 800-1400 (3) Western European art of the "Dark Ages," Romanesque, and Gothic periods. Writing-emphasis course. (Same as Medieval Studies 301 and Judaic Studies 431.)

441 Northern European Painting, 1350-1600 (3) From county art of late Middle Ages to Northern Renaissance. Jan van Eyck, Roger van der Weyden, and Durer; early printmakers. Writing-emphasis course. (Same as Medieval Studies 372.)

442 Art of Northern Europe, 1600-1675 (3) Concentrated study of Breughel, Rubens, Rembrandt, Georges de La Tour, Vermeer, Poussin, and Hals. Writing-emphasis course.

451 The Art of Italy, 1250-1540 (3) Development of exploration of naturalism. Revival of antique and development of theories of perspective in the Early Renaissance, including Duccio, Giotto, Masaccio, Donatello, Botticelli. Writing-emphasis course. (Same as Medieval Studies 382.)

452 Art of Italy, 1475-1575 (3) Concentrated study of Leonardo da Vinci, Michelangelo, Titian, Raphael, Pontormo, and Giorgione. Writing-emphasis course.

453 Art of Southern Europe: 1585-1700 (3) Concentrated study of Caravaggio, Bernini, and Italian Baroque developments in all media, Spanish Baroque painting and sculpture with special attention to Velazquez. Writing-emphasis course.

471 History of North American Art (3) Survey of landmarks in painting, architecture, sculpture, and design from prehistory to 1900. Writing-emphasis course.

472 History of 20th Century American Art (3) Developments in architecture, painting, and design from 1900. Writing-emphasis course.

473 19th Century American Painting (3) From West and Copley to emergence of "The Eight." Writing-emphasis course.

474 Theory of 20th-Century Art in Europe and America (3) Addresses the theoretical basis for the modern movement. Emphasis on analyzing and discussing individual works of art in light of contemporary writings by artists and theorists. Prereq: 172 and 173 (or their Honor equivalents), or consent of instructor. Writing-emphasis course.


478 Special Topics in Art History (3) Student or instructor-initiated course offered at convenience of department. May be repeated. Maximum 12 hours.

483 History of American Sculpture (3) American sculpture from prehistory to the 1960's. Writing-emphasis course.


489 Studies in Art History (3) Concentration in individually selected areas. Prereq: Consent of Instructor. May be repeated. Maximum 6 hours.

493 Independent Study (1-15) Prereq: Consent of Instructor.

494 Individual Problems (3) Prereq: Consent of Instructor. May be repeated. Maximum 12 hours.

235 Introduction to Cinematography as Art (3) Development of basic concepts and techniques for the creation of film as an art form. Prereq: Coreq: 231 or consent of instructor. (Same as Cinema Studies 235.)

236 Introduction to Video Art (3) Development of basic concepts and techniques for the creation of video works as an art form. Prereq: Coreq: 236. (Same as Cinema Studies 236.)

239 Special Topics in Media Arts (3) Student or instructor-initiated course offered at convenience of department. May be repeated. Maximum 12 hours.

308 Media Arts Portfolio Review (0) Review of prior work in media arts. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173 with a grade of C or better. Satisfactory/No Credit only.

311 Photography II (4) Individual expression in photographic medium. Prereq: 231. May be repeated. Maximum 8 hours.


317 Large Format Photography I (4) Studio course introducing theory and practice of photography using large format view camera. Prereq: 231, 311, and 331, and consent of instructor.

318 Photography III (3) Individual development of photographic problems and techniques. Prereq: 232 and 330, or permission of instructor. May be repeated. Maximum 9 hours. (Same as Cinema Studies 433.)

348 Video Art II (3) Continued development of concepts and techniques for the creation of video works as an art form with an emphasis on individual projects. Prereq: 236 and 330, or permission of instructor. May be repeated. Maximum 9 hours. (Same as Cinema Studies 436.)

393 Special Topics in Media Arts (3) Student or instructor initiated course offered at convenience of department. May be repeated. Maximum 12 hours.

411 Digital Photography II (4) Continuation of exploration of equipment and techniques for use of computer in photography. Prereq: 341, and permission of instructor.

442 Large Format Photography II (4) Studio course that continues the exploration of the use of the large format camera and photography. Prereq: 342 and permission of instructor.

493 Independent Study (1-15) Prereq: Consent of Instructor.

494 Individual Problems (3) Prereq: Consent of Instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (3) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 12 hours.

ART PAINTING (138)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated. Maximum 12 hours.

213 Painting I: Introduction (3) Capacities of oil and acrylic painting on canvas. Prereq: 101, 103 for art majors; none for non-art majors.

214 Painting II (3) Techniques of expression in oil and/or acrylic. Prereq: Painting 213. May be repeated. Maximum 6 hours.

216 Watercolor II (3) Capacities of transparent watercolor, with attention to individual exploration of surface, space, and concept. Prereq: Painting 215. May be repeated. Maximum 6 hours.

219 Special Topics in Drawing/Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

313 Painting III (4) Individual expression with varied media on canvas. Prereq: 214 and 314 or consent of instructor. May be repeated. Maximum 6 hours. Total of 8 hours required for students in the Painting concentration.

316 Watercolor Portfolio Review (0) Review of prior work in watercolor. Successful completion required prior to registration for junior or senior courses. Prereq: Art History 172 and 173 with a grade of C or better. Satisfactory/No credit only.

315 Watercolor III (4) Individual expression with varied water-based media on paper. Prereq: 216 and 316 or consent of instructor. May be repeated. Maximum 6 hours. Total of 8 hours required for students in the Watercolor concentration.

413 Painting IV (6) Advanced painting stressing individual concepts and personal approaches with varied media. Prereq: 313. May be repeated. Maximum 12 hours. Total of 12 hours required for undergraduate students in the Painting concentration.

415 Watercolor IV (6) Advanced painting with water-based media on paper stressing individual concepts and personal approaches. Prereq: Art History 172 and 173 with a grade of C or better. Satisfactory/No credit only.

419 Special Topics in Drawing and Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

430 Photography (2-4) for Intermediate to Advanced. May be repeated.

270 Fabric (2-4) Beginning to Intermediate. May be repeated.

260 Fibers (2-4) Beginning to Intermediate. May be repeated.

240 Painting (2-4) Beginning to Intermediate. May be repeated.

246 Mixed Media Sculpture (3) Further problems in sculptural use of two or more different media. Prereq: 243 and 340 or consent of instructor.

241 Advanced Sculpture (3-6) Individual development of sculptural problems and techniques. Prereq: 6 hours of 300-level sculpture. May be repeated. Maximum 12 hours.

449 Special Topics in Sculpture (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

470 Fabric (2-4) Intermediate to Advanced. May be repeated.

460 Fibers (2-4) Intermediate to Advanced. May be repeated.

469 Special Topics in Sculpture (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

441 Advanced Sculpture (3-6) Individual development of sculptural problems and techniques. Prereq: 6 hours of 300-level sculpture. May be repeated. Maximum 12 hours.

490 Wood (2-4) Intermediate to Advanced. May be repeated.

491 Wood Design (2-4) Intermediate to Advanced. May be repeated.

492 Photography (2-4) Intermediate to Advanced. May be repeated.

493 Independent Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

480 Special Topics (2-4) Student or instructor-initiated course offered at convenience of department. Prereq: Successful completion of any Portfolio Review (Art 300, or Art Ceramics 320, or Art Design/Graphic 330, or Art Drawing 312, or Art Media Arts 330, or Art Painting 314, or Art Painting 316, or Art Printmaking 360, or Art Sculpture 340). May be repeated. Maximum 12 hours.

ART ARROWMONT PI BETA PHI SCHOOL OF ARTS AND CRAFTS

ART PRINTMAKING (132)

191 Introduction to Studio Art: Various Media (3) Individual expression for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 6 hours.

262 Intaglio I (3) Metal plate intaglio printing in traditional and contemporary techniques of etching, softground, drypoint, aquatint, and color methods. Prereq: 101.

283 Lithography (3) Stone and aluminum plate lithography applying traditional and contemporary techniques of crayon, tusche, transfer methods, state proofs and photolithography. Prereq: 101.

264 Screen Printing I (3) Screen printing as a fine art medium including development and application of various basic stencils in compositional printing. May be repeated. Maximum 6 hours. Prereq: 101.

269 Special Topics in Printmaking (3) Student or instructor-initiated course offered at convenience of department. Prereq: 101 and determined by department for individual topic. May be repeated. Maximum 12 hours.

291 Papermaking Workshop (3) Papermaking as a medium for two- and three-dimensional art. Includes sheet forming, embedding, laminating, embossing, pulp-dying, inking, casting, and other related techniques. Emphasis on development of a personal form.

360 Printmaking Portfolio Review (0) Review of prior work in printmaking. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173 with a grade of C or better. Satisfactory/No credit only.

362 Intaglio II (4) Exploration of concepts and techniques in intaglio printing including work from zinc, photo-zinc, and steel. Prereq: 262 and 360 or consent of instructor. May be repeated. Maximum 8 hours.

363 Lithography II (4) Exploration of concepts and techniques in lithography from stones, aluminum plates and photo-plates. Prereq: 263 and 360, or consent of instructor. May be repeated. Maximum 8 hours.

364 Screen Printing II (4) Advanced screen printing techniques including photo screening. Emphasis upon individual personal and conceptual concept. Prereq: 264 and 360, or consent of instructor. May be repeated. Maximum 8 hours.

462 Intaglio III (3-6) Exploration of individual projects through advanced color printing methods and combinations with other print media. Prereq: 362, or consent of instructor. May be repeated. Maximum 12 hours.

463 Lithography III (3-6) Exploration of individual projects through advanced lithographic methods in combination with other print media. Prereq: 363, or consent of instructor. May be repeated. Maximum 12 hours.

464 Screen Printing III (3-6) Individual development of screen printing problems and techniques. Emphasis upon greater development of image and personal concept. Prereq: 364, or consent of instructor. May be repeated. Maximum 12 hours.

469 Special Topics in Printmaking (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

493 Independent Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

ART SCULPTURE (143)

191 Introduction to Studio Art: Various Media (3) Individual expression for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.

241 Sculpture I (3) Problems which explore basic materials and techniques including clay modeling, plaster construction, modeling. Limited work in plastics, wood, or metal.

242 Life Sculpture I (3) Modeling techniques in clay and wax, working from live human figures. Possibilities of expression with human figure as subject. Modeling process as both observational and material handling technique. Prereq: 101, 103, or consent of instructor. May be repeated. Maximum 6 hours.

243 Metal Cast Sculpture I (3) Metal casting methods in bronze or aluminum. May include lost wax, styrofoam, sand, ceramic shell casting methods. May be repeated. Maximum 6 hours.

245 Steel Sculpture I (3) Introduction to the use of steel as a material for the creation of sculpture. Development of welding techniques.

246 Mixed Media Sculpture I (3) Use of two or more materials, and a variety of sculptural techniques, joined to create three-dimensional forms. May include carving, modeling, lighting, construction, and found objects.

249 Special Topics in Sculpture (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

410 Drawing (2-4) Intermediate to Advanced. May be repeated.

420 Ceramics (2-4) Intermediate to Advanced. May be repeated.

430 Photography (2-4) Intermediate to Advanced. May be repeated.

440 Painting (2-4) Intermediate to Advanced. May be repeated.

450 Metal Design (2-4) Intermediate to Advanced. May be repeated.

460 Fibers (2-4) Intermediate to Advanced. May be repeated.

469 Special Topics (2-4) Student or instructor-initiated course offered at convenience of department. Prereq: Successful completion of any Portfolio Review (Art 300, or Art Ceramics 320, or Art Design/Graphic 330, or Art Drawing 312, or Art Media Arts 330, or Art Painting 314, or Art Painting 316, or Art Printmaking 360, or Art Sculpture 340). May be repeated. Maximum 12 hours.

ART ARROWMONT PI BETA PHI SCHOOL OF ARTS AND CRAFTS
ASIAN LANGUAGES (144)
101-122 Elementary Modern Standard Arabic I, II (4, 4) Taped language program. Must be taken in sequence. F, Sp
141-142 Elementary Modern Hebrew I, II (4, 4) Taped language program. Must be taken in sequence. F, Sp
231-232 Intermediate Chinese I, II (5, 5) Prereq: 151-152 or equivalent or consent of instructor. Must be taken in sequence. F, Sp
251-252 Intermediate Japanese I, II (5, 5) Prereq: 151-152 or consent of instructor. Must be taken in sequence. F, Sp
311-321 Chinese Literature in English Translation (3, 3) Classsicl literature, 312-Vernacular and modern literature. Writing-emphasis course.
331-332 Advanced Chinese I, II (4, 4) Prereq: 251-252 or equivalent or consent of instructor. Must be taken in sequence.
351-352 Advanced Japanese I, II (4, 4) Includes conversation, drill, and composition practice with native speaker as well as reading and translation. Prereq: 251-252. Must be taken in sequence.
431 Readings in Chinese Literature (3) Prereq: Mastery of intermediate-level of Chinese or consent of instructor. May be repeated. Maximum 9 hours.
451 Readings in Japanese Literature (3) Prereq: Mastery of intermediate-level of Japanese or consent of instructor. May be repeated. Maximum 9 hours.
490 Chinese and Japanese Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For Language & World Business majors only. Satisfactory/No Credit grading only.
491 Chinese and Japanese Foreign Study (1-15)
ASIAN STUDIES (145)
101-122 Asian Civilization (3,3) Comparative study of development of religion, social institutions, and high culture in India, China, Japan, and the Islamic world. 101-India and the Islamic World. 102-China and Japan. Writing-emphasis course.
121-122 Elementary Modern Standard Arabic I, II (4, 4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.
141-142 Elementary Modern Hebrew I, II (4, 4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.
161-162 Elementary Persian (4, 4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.
221-222 Intermediate Modern Standard Arabic I, II (4, 4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.
241-242 Intermediate Modern Hebrew I, II (4, 4) Taped language program. Prereq: 141-142 or equivalent or consent of instructor. Must be taken in sequence.
261-262 Intermediate Persian (4, 4) Taped language program. Prereq: 161-162 or equivalent or consent of instructor. Must be taken in sequence.
332 Classical Islam (3) (Same as Religious Studies 332).
333 Islam in the Modern World (3) (Same as Religious Studies 333).
471 Selected Topics in Asian Studies (3) Content varies. May be repeated. Maximum 9 hours.
491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)
ASTRONOMY (150)
151-152 Introductory Astronomy (4, 4) Survey of the composition, structure, and dynamics of the universe which introduces the basic vocabulary of astronomy and scientific method. Credit may be applied toward the major requirement in physics.
411 Astrophysics (3) Development of analytical physical models of the structure of the universe, including the universe as a whole. Credit may be applied toward the major requirement in physics.
421 Special Topics in Astronomy (1-3) Topics of current interest in Astronomy. May be repeated. Credit with consent of departmen. Maximum 9 hours.
422 Introductory Astronomy (4, 4) International Space Science Institute in South Salt Lake, Utah. May be repeated. Maximum 9 hours.
423 Special Topics in Astronomy (1-3) Topics of current interest in Astronomy. May be repeated. Credit with consent of department. Maximum 9 hours.
AUDIOLGY AND SPEECH PATHOLOGY (160)
126 Speech for Foreign Students (3) Sounds and intonation patterns of American English and relation of spelling to sound. Designed for international students. Prereq: 101-102 or 200-201 and consent of instructor. Credit may be applied toward BCMB major. F and Sp.
300 Introduction to Communication Disorders (3) Nature, etiology, and incidence of speech, hearing, and language disorders.
302 Acoustics and Perception (3) Basic acoustics. Introduction to psychoacoustic and speech perception.
305 Speech Science I (3) Phonetics and Acoustics of Speech (3) Basic phonetics including recognition and production of spoken English. Analysis of speech. Credit cannot be applied toward BCMB major. (Same as Nutrition 310).
306 Speech Science II (3) Anatomy and Physiology (3) Anatomy, physiology and embryological development of the speech production mechanism. Prereq: 305.
320 Speech and Language Development (3) Speech and language development in the normal child.
331 Articulation Disorders (3) Etiology, diagnosis, and treatment of articulatory and phonetic defects. Prereq: 304, 305, or consent of instructor.
421 Stuttering (3) Nature, appraisal and treatment. Prereq: 304 or consent of instructor.
433 Observation of Clinical Practice I (1-4) Prereq: 304, 305 or consent of instructor.
434 Clinical Practice in Speech-Language Pathology I (1-4) Prereq: 433 and consent of instructor. Enrollment for less than 2 semester hours must have prior departmental approval. May be repeated. Maximum 4 hours.
440 Voice Disorders (3) Etiology, diagnosis, and treatment of organic and functional voice disorders. Prereq: 304, 305, or consent of instructor.
441 Articulation and Voice Disorders (3) Perceptual and acoustic assessment of articulation and voice disorders. Prereq: 304, 305, or consent of instructor.
451 Clinical Practice in Audiology (1-4) Prereq: 473 and 494. May be repeated. Maximum six hours.
455 Problems in Speech Pathology (1-3) Prereq: Consent of instructor.
461 Introduction to Language Pathology in Children (3) Nature, etiology and treatment of language retardation and related behavior problems. For Language & World Business majors only. F.
471 Selected Topics in Asian Studies (3) Content varies. May be repeated. Maximum 9 hours.
421 Cell and Tissue Structure and Function (4) Study of animal cells and tissues at light and electron microscope levels. Prereq: Biology 140. 2 hrs and 2 labs.

429 Cell Biology Laboratory (3) A series of open-ended, discovery-oriented experiments will be developed to design and test new drugs using modern cell biology and computer technologies. Experimental modules include techniques in cell isolation, purification, culturing, fluorescent microscopy, receptor binding and signal transduction, apoptosis, cell cycle analysis, protein and RNA stabilization, and state-of-the-art electron microscopy. Students will actively participate in experiment design, execution, data analysis, and peer evaluation. Prereq: Coreq: 401 or 410. F


452 Independent Research in Biochemistry (1-6) Special experiential problems under direction of a staff member. Limited to undergraduates and by consent of instructor. May be repeated. Maximum 12 hours. Prereq or Coreq: 410. F

462 Junior/Senior Seminar (1) Lecture/discussion on the application of biochemical principles and techniques in the research, clinical, diagnostic or therapeutic environment. May not be used toward the requirements of a major. Major may be repeated. Prereq: 410. F

465 Human Genetics (3) Genetic and molecular principles and problems of human inheritance. Prereq: Biology 240.

471-481 Biophysical Chemistry (3) Physicochemical principles and applications to biological systems. Prereq: 471 Thermodynamics; chemical equilibrium; solution chemistry; transport; electrochemistry; kinetic; enzyme catalyzed reactions. 481 — Elementary quantum chemistry; interactions of light with biological molecules; optical and magnetic spectroscopy; light scattering; case studies of selected macromolecules. Prereq: Calculus, Organic Chemistry, General Biology or consent of instructor. (Same as Chemistry 471-481). F,Sp

480 Physiology of Exercise (3) (Same as Exercise Science 480.)

492 Off-Campus Study (1-6) No more than two credits of 492 will count toward the Biological Sciences: BCMB major. Satisfactory/No Credit grading.

BIOL OGY (190)

101-102 Humankind in the Biotic World (4,4) Introduction to the principles of biology from the perspective of the implications of plants, animals, and microbes on human society, and the human influence on the biotic world. Intended for students not majoring in the biological or pre-health sciences. 101 surveys life from the cell to human health. Topics include: macromolecules and energy flow in biological systems; genetics and information flow from generation to generation; reproduction, biotechnology and genetic engineering; sex and sexuality; human physiology, cancer, drugs — use and misuse. 102 focuses on the diversity of the Earth's biota and the interdependence among components. Topics include: surveys of biodiversity from bacteria to higher plants and animals; genetics and evolutionary processes; population biology, ecology, ecosystems, environmental issues including world population, and global climate change. Each course is 3 hours lecture, 1 hour discussion/laboratory. Laboratories involve a mix of skills-oriented exercises and assignments focused on topics. Although not required, it is strongly recommended that 101-102 be taken in sequence.

120 Biodiversity (4) Unifying concepts and principles of biology, illustrated with diversity of life, intended for science majors. Properties of life, molecules, origin of life, cells, genetics, introduction to kingdoms, origins of multicellularity, multicellular plants and animals, ideas about evolution and nature. Emphasis on common themes in living systems (e.g., metabolism, protein and nucleotide sequence similarities, geometry and symmetry, change and fossils, and the major plant and animal groups. Writing and analysis of lab activities required. 3 hours lecture, 1 hour lab each week. Credit not available for students with credit for both 101 and 102.

140 Organization and Function of the Cell (4) Topics include: basic organic chemistry and biochemistry, cell structure — membranes, cell walls, and internal organisation of organelles and the cytoskeleton; cell division mitosis; and molecular biology. Labs will stress basic laboratory skills and procedures such as pipetting and basic molecular techniques, as well as introduce modern methods for analysis of cell components such as electrophoresis and confocal microscopy. Prereq: 130, Chemistry 120; coreq: Chemistry 130.

202-203 Inside the Biological Sciences (1,1) Presentation of the Security and weapon utilization debates will be interspersed with discussions emphasizing applied biological research. Familiarizes students with diverse life and current applications of biology. Open to freshmen and sophomores. Satisfactory/No Credit only. May be repeated.

240 General Genetics (4) Classical and modern principles of heredity. Topics include meiosis and transmission genetics; molecular genetics and gene expression; population and evolutionary genetics. Laboratory will alternate with problem-solving sessions and will include both computer-based simulations and hands-on experience with model genetic systems. Emphasis on development of analytical skills. Prereq: 130-140 or Bot 110-120; Chemistry 120-130.

250 General Ecology (4) Relations between organisms and their environment, including human environmental problems. Topics include populations, communities, and ecosystems. 3 hours lecture, 1 hour discussion, field trips or computer simulations. A working knowledge of college algebra is required. Prereq: 130-140 or Bot 110-120; Chemistry 120-130.

307-308 Honors Colloquy in Biological Research (1,1) Presentations by professional biologists emphasizing current research in the field of biology. Nationally recognized speakers invited each term. Open to sophomores, juniors and seniors; required of Threshold Biology Scholars. Lab: 3 hours of 200 or above. Permission of instructor required. F

397 Honors Seminar on Research Skills (3) Technical and cognitive skills necessary for participation in biological research. Lectures/presentations and small team demonstrations and discussion. Required of (but not limited to) Threshold Biology Scholars. Lab: 3 hours of 200 or above. Permission of instructor required. F,Sp

399 Honors Practicum in Biological Research (3-5) Rotation through 3-5 modules of required didactic experience participating laboratories. Required of (but not limited to) Threshold Biology Scholars. Lab: 8 hours of 200 or above and 397. Permission of instructor required. S

401 Senior Thesis (3-12) Required research experience of Threshold Biology Scholars. Students design and conduct research projects, complete research data acquisition, organize thesis documents, and prepare presentations. May be repeated. Maximum of 12 hours. Prereq: 394-395.

BIOSYSTEMS ENGINEERING (196)

103 Introductory Design and Fabrication (1) Experience with fundamental design systems of biosystems engineering through lab experiences, design competition, and field trips to production facilities. 2 hours lab. F

104 Design Apprenticeship (1) Exposure to design in biosystems engineering, through apprenticeship with senior design team in Biosystems Engineering 402. Apprentices will maintain a journal describing their activities in assisting the senior design engineers, and will make an oral presentation summarizing the design project with which they assisted. Grading will be based on journal submissions, the final presentation, and attendance. Prereq: 103. 2 hour lab. Sp

201 Career Opportunities (1) Activities and opportunities in the fields of specialization: required training for each area; projected career activities. 1 hour. F
243 Material and Energy Flows in Biological Systems (3) Introduction to Mass and energy balances, and enzyme and membrane selectivity, through the study of plants, animals and microorganisms. Topics include: terrestrial energy balance; enzymes and reaction rates; plant energy and nutrient balances; biological cycles and waste production; mathematical descriptions of microbial growth; and introductory chemical reactor theory. Emphasis on the mathematical treatment of reaction rates, solving and reporting. Design content. PreReq: Engineering Fundamentals 101, 102, and Chemistry 120 and 130. Sp

303 Transport Processes in Biological Systems (3) Analysis of biotechnical systems with emphasis on thermal, electrical, and mass transport. Applicable to protein purification, leakage, convection, and conduction heat transfer, and mass transfer. PreReq: Nuclear Engineering 303 or Mechanical Engineering 437. 1 hour and 2 labs. Fall

311 Processing Food and Biological Materials (3) Application of basic engineering sciences to processing and handling of biological materials: physical properties, thermal processes, drying, evaporation, refrigeration and freezing, membrane processes and extraction. PreReq: 303, Engineering Science 341 or Civil and Environmental Engineering 390. Fall

315 Soil and Water Conservation (3) Hydrologic, agronomic, and engineering principles applied to resource management problems including flood and erosion control, drainage, and water quality. PreReq: Plant and Soil Sciences 210 or 212. 1 hour and 1 lab. (Same as Plant and Soil Sciences 315.) Sp

331 Power Units and Machinery (3) Diesel engine processes, alternative fueling, performance maps, and off-road vehicle applications. Wheel and track-laying traction systems, track design and analysis, external reactions, and structural analyses of vehicles and machinery. Design of basic power transmitting systems: chain drive, belt drive, bearing, and shaft alignment. System design incorporating hydraulic analysis of power and machinery. PreReq: Mechanical Engineering 331, Engineering Science 321, or consent of instructor. 2 hours and 1 lab. Sp

401 Biosystems Engineering Design I (3) First course of a capstone design sequence. Review of fundamental engineering principles, time and project management, ethics, contemporary issues in biosystems engineering, portfolio review, and design proposal generation. Design proposals will include extensive written and preliminary analytical reports. PreReq: 451 and senior standing or consent of instructor. Corequisite: 463 or 460 or 430 or 433. F

402 Biosystems Engineering Design II (6) Culmination of capstone design sequence. Intensive design experiences in planning and supervised in Biosystems Engineering 401. Analysis, construction, testing, evaluation and reporting required. Technical lectures on design software and technical issues relevant to the chosen design project. Weekly oral and written reports. Submission of design to external engineering consultant for competitive display required. Prerequisite: 401, 2 hour lecture, 2 hour recitation (weekly project reports) and 4 hour lab. Sp

403 Machine and Component Design (3) Nature of design functional analysis; creativity; geometric and kinematic requirements; plane mechanisms, forces, stress, deflection, entime times applications designed to design project components and assemblies. PreReq: 331 or consent of instructor. 1 hour and 2 labs. F


430 Mobile Hydraulic Power System Design (3) Functional and operational characteristics of mobile hydraulic system components including pumps, actuators: analysis and synthesis of power transmission and control circuits. PreReq: Engineering Science 341 or Civil and Environmental Engineering 390. 1 hour and 2 labs. F

433 Bioprocess System Design and Analysis (3) Design of processing, storage and handling systems for biological materials. Mass and energy balances, product and waste flow measurement, bioreactor applications, economic analysis, safety and human factors, design content: 3 hours. PreReq: or Coreq: 311. 1 hour and 2 labs. F

451 Electronic Systems (4) Basic electronics with biological applications. Analog and digital electronics; sensing and controlling physical and environmental parameters; sensor, select, code, interface, signal conditioning; process control. Includes laboratory experiments and design projects. Design content. 1 hour. PreReq: Electrical Engineering 301. 3 hours and 1 lab. F

470 Special Problems in Biosystems Engineering (1-3) Selection of special thesis report and problem design content. May be repeated. E

480 Selected Topics in Biosystems Engineering (1-3) Current trends and future problems in agricultural engineering. May be repeated. E

BIOSYSTEMS ENGINEERING TECHNOLOGY (194)

202 Materials and Fabrication (3) Properties of materials including wood, metals, concrete, plastics, and fabrics; processing and planning read; fabrication techniques and processes involving hand tools, power equipment, and arc and gas welding. 1 hour and 2 labs. Sp

219 Survey Techniques (3) Measurement of distances, angles, and areas; differential and profile leveling; topographic surveying and mapping; area computation. PreReq: Math 115 or consent of instructor. 1 hour and 1 lab. F

422 Food and Process Engineering Technology (3) Application of basic engineering principles to agricultural and food processes. Fluid handling, drying, evaporation, thermal processing, heating and cooling, refrigeration systems, and materials handling. PreReq: Physics 101 or 221, 2 hours and 1 lab. Sp

432 Agricultural Machinery and Tractors (3) Functions, selection, matching, and design of agricultural machinery systems. Tractor power ratings, engine and transmission systems, hydraulic systems, hitching, and ballasting. Field and material capacity, field efficiency, cost analysis, and machinery replacement strategies. Functional analyses of vehicle systems, field operations, and field systems, forage and small grain harvesting, and cotton harvesting. Crop drying processes, off-road machinery safety considerations, and operator ergonomics. PreReq: Mathematics 123 or 125 or consent of instructor. 2 hours and 1 lab. Sp

442 Agricultural Waste Management and Pollution Control (3) Waste management fundamentals; characteristics of animal manures, techniques for collecting, transporting, storing, and utilizing livestock waste. PreReq: Mathematics 125 or 123 or equivalent. 2 hours and 1 lab. F

452 Small Internal Combustion Engines (3) Theory, concepts and mechanics of small internal combustion engines; theoretical cycles, selection, operation, adjustment, troubleshooting, and test. PreReq: Math 123 or equivalent. 2 hours and 1 lab. Sp

451 Plant Tissue Culture (3) Methods for the culture of cells, tissues, and organs. Nutritional requirements; media; methods of culturing, genetic transformation, agro-biological techniques. PreReq: Mathematics 123 or 125 or consent of instructor. 2 hours and 1 lab. Sp

451 Plant Tissue Culture (3) Methods for the culture of cells, tissues, and organs. Nutritional requirements; media; methods of culturing, genetic transformation, agro-biological techniques. PreReq: Mathematics 123 or 125 or consent of instructor. 2 hours and 1 lab. Sp

471 Senior Seminar (3) A capstone course dealing with topics of current interest in plant biology. Written reports and oral presentations are required. PreReq: Senior standing. Sp
Courses of Instruction

BROADCASTING (202)

275 Introduction to Radio and Television (3) Lecture and lab course providing students with an overview of radio, television, cable, and related technologies. Includes history, programming, regulations, and effects of radio and television on society. Students gain practical experience in radio at WUTK-FM. Prereq: Communications 100 or Broadcast 275.

310 Radio-TV News (3) Writing and reporting for electronic media. Lecture and lab course with writing emphasis. Includes work experience at WUTK-FM. Prereq: 275.


330 Audio/Video Production (3) Emphasis on the function and operation of the primary video and audio tools to develop effective content. Lecture and laboratory provide experience in studio production process and procedures. Includes concept development, script writing, message design, applied aesthetics, crew management, and producing. Prereq: 275.

360 Radio-TV Performance and Communication Development of vocal, visual, and performance skills for announcers, interviewers, narrators, reporters, and newscasters. Laboratory required. Prereq: 275.

410 Electronic News Gathering (3) Writing, reporting, and producing news stories for television. Lecture and lab course providing students with experience as reporters/producers for a television news program. Includes an overview of electronic news gathering equipment and techniques as well as video editing. Prereq: 310.


430 Electronic Field Production (3) Basic principles of video production on location. Emphasis on the concepts relating to design, development, and production in the field. Includes concept development, script writing, shooting, graphics, sound design, lighting, and editing. Prereq: 330 or consent of instructor.

435 Applied Aesthetics in Audio and Video (3) Emphasis on the function of various aesthetic elements as they apply to content, aesthetic, camera movement, sound, graphics, lighting, and editing. Projects to provide opportunities to apply theory of aesthetics. Prereq: 430.

440 Corporate Video (3) Examination of special requirements of business, industrial, educational, and medical uses of video. Management, budgeting, planning, producing, and evaluating projects. Prereq: 430 or consent of instructor.

450 Radio, Television and Society (3) Emphasis of electronic media on society. Research and theory applied to current issues. Prereq: Communications 100 or Speech Communication 100.

460 Broadcast News Operations (3) Production of news program for broadcast on television stations. Electronic programming, gathering, editing and writing news packages, and radio production. Prereq: 410 or consent of instructor.

470 Cable Television and Emerging Technologies (3) History and structure of the cable television industry. Cable regulations and programming. Examination of the role of telephone companies in the distribution of video. Analysis of all relevant technologies including direct broadcast satellites, fiber optics, cable, high definition television and others. Prereq: 460 or consent of instructor.


490 Radio and Television Management (3) Business policies and practices of broadcast operations, departmental functions, cost and income analysis, leadership styles and techniques. Emphasis on mid-level management. Capstone course to be taken in student's last semester. Prereq: Senior standing.

492 Practicum (1) Work and learning experience at radio, television, cable or non-broadcast facilities. Final written report required. May be repeated once. Prerequisite: Senior standing and consent of department head. S/NC grading only.

494 Special Topics (3) Salient issues in electronic media. Topics vary. Prereq: Consent of instructor. May be repeated. Maximum of 6 hours.

BUSINESS ADMINISTRATION (205)

220 Business Career Planning (1) Introduction to Business, concentration options, career opportunities. Making the concentration/career decision, preparing for and conducting a job campaign. Satisfactory/No Credit grading only. Required for satisfactory progression to upper-level in Business. Prereq: Business Pre-major.

320 Business Career Placement (1) Exploration of career opportunities in business. Emphasis on making the career decision, preparing for and conducting a job campaign. Using the Placement Office. Satisfactory/No Credit grading only. Prereq: Satisfactory/No Credit grading only.

321 Special Topics (1-5) Topics of interest in business. Topics announced prior to offering. May be repeated for additional credit provided topic is different. Maximum 9 hours per semester. Prereq: consent of instructor.

311 International Business (3) Survey of strategic implications of conducting business operations in an international context. Analysis of relevant cross-national environments, including cultural, political, economic and legal characteristics. Prereq: Economics 201.

467 Honors: Corporate Executive in Residence Seminar (3) Interaction with top corporate executives from a wide spectrum of business disciplines. Distinguished and international strategic planning as it is applied in major U.S. Corporations. Executive presentations and small group discussion on goods and services in consumer and industrial settings. Prereq: Finance 301, Management 301, Marketing 301 and consent of instructor.

491 Foreign Study (1-15) Prereq: Consent of instructor.

492 Off-Campus Study (1-15) Satisfactory/No Credit grading only. Prereq: Consent of instructor.

493 Independent Study (1-15) Prereq: Consent of instructor.

495 Seminar in International Business Policy (3) Capstone course for students in the Language and World Business Program designed to integrate concepts covered in other business courses. For students with major concentrations in International Business only.

BUSINESS LAW (216)

301 The Legal Environment of Business (3) Introduction to legal issues in business. Process of making the legal decision, preparation for and conducting a job campaign. Satisfactory/No Credit grading only. Prereq: Consent of instructor.

492 Practicum (1) Work and learning experience at radio, television, cable or non-broadcast facilities. Final written report required. May be repeated once. Prerequisite: Senior standing and consent of department head. S/NC grading only.

494 Special Topics (3) Salient issues in electronic media. Topics vary. Prereq: Consent of instructor. May be repeated. Maximum of 6 hours.

CHEMISTRY (235)

100 Principles of Chemistry (4) Bonding and molecular structure and periodic table; liquids, solids, solutions, colloids, acids and bases, complex ions, reaction rates, induction, kinetics and equilibria. 3 hours and 1 lab. E

110 Introduction to Organic and Biochemistry (4) Organic chemistry: electron, unsaturated and aromatic hydrocarbons, reactions of electron functional groups. Biochemistry: amino acids and proteins, carbohydrates, lipids, nucleic acids. 3 hours and 1 lab. Prereq: 100 or 135.

120-130 General Chemistry (4,4) A general course in theoretical and descriptive chemistry. 120 - Modern atomic theory, chemical bonding, stoichiometry, qualitative treatment of gas laws, quantitative aspects of solution chemistry, kinetics. 130 - Chemical equilibria, thermodynamics, descriptive chemistry of nonmetallic and metallic elements, electrochemistry. Introduction to organic and biochemistry. Prereq: 120 or 128. 3 hours and 1 lab. E

128-138 Honors: General Chemistry (4,4) 3 hours and 1 lab. 128-F, 138-F.

150 Chemistry and Society (3) Food and agricultural chemistry; chemistry of life; chemistry in medicine; air and water pollution. 3 hours lecture. Not a prerequisite for any other chemistry course.

160 Chemistry and the Home (3) Chemistry and the consumer; household products; chemistry in the kitchen and around the home. 3 hours lecture. Not a prerequisite for any other chemistry course.

200 Introduction to Chemical Research (1) Participation in an active research program in analytical, inorganic, organic, physical, or polymer chemistry. Students work with researchers to acquire research planning experiments, interpreting results, and formulating hypotheses. Credits may not be applied toward a major or minor in chemistry. Not a substitute or prerequisite for 400. Prereq or Coreq: 200 or higher level course in chemistry and consent of instructor. May be repeated. Maximum 4 hours. E

210 Analytical Chemistry (3) Periodicity, valence, bonding, and the descriptive chemistry of the elements; coordination compounds; nuclear chemistry; transition elements, inner transition elements. 2 hours and 1 lab. Prereq: 120 or 125.

240 Chemical Programming (3) Use of the computer in solving problems encountered in chemistry. Required of and limited to chemistry majors. Prereq: 130 or 138. 1 hour and 1 lab. S

301 Industry/Laboratory Internship (3) Supervised by industry/laboratory technical staff. May be repeated for additional credit provided topic is different. Maximum of 12 hours credit. Prereq: 120 or 130 or consent of Department Head.

310 Analytical Chemistry (3) Principles and practices of quantitative measurements in chemical systems. Acid-base, complexometric, and redox equilibria; applications of titrimetric analysis, potentiometry, electroanalytical techniques; advanced chromatographic theory. Prereq: 310. S/NC grading only.

310 Analytical Chemistry Laboratory (1) Experiments on topics covered in 310. Coreq: 310. E

320 Advanced Analytical Chemistry (3) Modern electroanalytical methods; mass spectrometry; spectrophotometric techniques; magnetic resonance methods; advanced chromatographic theory. Prereq: 310. S


360 Organic Chemistry (3) Compounds of carbon and their reactions. Resonance, structures, stereochemistry, isomerism, spectroscopic and other physical properties. Must be taken in sequence. Prereq: 130 or 138. Coreq for 360.

369 Organic Chemistry Laboratory (3) Experiments on topics discussed in 350-360. Coreq: 360. 3 hours lecture and 1 lab course.

125 Introduction to Chemistry (3) Bonding and molecular structure; solids, liquids, and solutions, colloids, acids and bases, complex ions, reaction rates, induction, kinetics and equilibria. 3 hours and 1 lab.
205 Introduction to Family Life Programs (2) Community and school-based programs that focus on enhancing individual and family life. Includes observation.

240 Family Diversity (3) Cultural, socioeconomic, ethnic, and familial variations; emerging needs and programs. Prereq: 220 or consent of instructor. (Same as African-American Studies 420.)
485 Special Topics in Child and Family Studies (1-9) Personal or professional interest in human development or family studies. Prereq: 9 hours in Child and Family Studies, Junior or Senior standing, or consent of instructor. May be repeated. Maximum 9 hours.

497 Honors: Child and Family Studies (3-6) Issues or topics affecting children and/or families, designed to meet particular interests of the student. Prereq: 15 hours in Child and Family Studies, overall GPA of 3.25 or greater, Junior standing, or consent of Instructor. May be repeated. Maximum of 6 hours.

**CHINESE (249)**

131-132 Elementary Chinese I,II (5,5) (Same as Asian Languages 131-132.)

231-232 Intermediate Chinese I,II (5,5) (Same as Asian Languages 231-232.)

311-312 Chinese Literature in English Translation (3,3) (Same as Asian Languages 311-312.)

331-332 Advanced Chinese II,IV (4,4) (Same as Asian Languages 331-332.)

431 Readings in Chinese Literature (3) (Same as Asian Languages 431.)

**CINEMA STUDIES (251)**

235 Introduction to Cinematography as Art (3) (Same as Art 235.)

236 Introduction to Video Art (3) (Same as Art 236.)

281 Introduction to Film Studies (3) (Same as English 281.)

312 Popular Culture and American Politics (3) (Same as Political Science 312.)

322 German Film (3) (Same as German 322.)

325 Russian Film (3) (Same as Russian 325.)

334 Film and American Culture (3) (Same as English 334) and American Studies 334.)

400 Special Topics (3) May be repeated. Maximum 6 hours.

420 French Cinema (3) (Same as French 420.)

421 Topics in Italian Literature and Cinema (3) (Same as Italian 421.)

433 Modern Art and Film (3) (Same as Art 433.)

435 Cinematography as Art (3) (Same as Art 435.)

436 Video as Art (3) (Same as Art 436.)

465 Latin American Film and Culture (3) (Same as Latin-American Studies 465 and Spanish 465.)

469 Sexuality and Cinema (3) (Same as Women's Studies 469.)

489 Special Topics in Film (3) (Same as English 489.)

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

**CLASSICS (257)**

201 Introduction to Classical Civilization (3) Introductory survey of civilization of ancient Greece and Rome. Includes aspects of history, literature, art and archaeology, philosophy and religion. Writing-emphasis course.

221 Early Greek Mythology (3) Archaic Greek religion through comprehensive study of Greek myths with emphasis on how they reflect the early Greek vision of the universe and humanity's place in it. Origins and development of Greek myths and the rise of organized religion, from Bronze Age to about 450 B.C. Readings include Hesiod and Aesop. Writing-emphasis course.

222 Classical Greek and Roman Mythology (3) Use of myth in literature, history, religion and philosophy of Greece and Rome. Two foci: the first half of the fifth century B.C. and the last quarter of the first century B.C. Includes Oriental influences into Greece and Rome, including early Christianity. Readings include Sophocles, Euripides, Roman poetry, and modern scholarship. Writing-emphasis course.

232 Archaeology and Art of Ancient Greece (3) Survey of Greek archaeology from prehistoric times to the Roman period (ca. 3000-100 B.C.). For prehistoric times emphasis on architecture and artifacts used to recreate the culture of the Minoan and Mycenaean civilizations and that of the following Dark Age. For Archaiac, Classical, and Hellenistic periods emphasis on development of architecture, sculpture, and vase painting. Includes minor arts and the relationship between archaeology and art. Writing-emphasis course.

233 Archaeology and Art of Etruria and Rome (3) Major aspects of the Etruscan and Roman worlds: culture and civilization of ancient Italy; the Roman World from prehistoric times to the fall of the Roman Empire (1000 B.C.-500 A.D.). Reconstruction of the Etruscan culture from tombs, paintings, and artifacts. Prereq: One of the following: 232, 361, ancient history (Ancient Near East or Ancient Greece), or consent of instructor. Writing-emphasis course.

250 Greek and Roman Literature in English Translation (3) Major literature of ancient Greece from Homer to Tacitus. Writing-emphasis course.

273 Medical and Scientific Terminology (3) Greek and Latin roots from which medical and scientific terminology is derived. Extensive practice in analysis of terms. Practice in use of Latin nomenclature.

311 Archaeology of the Aegean Bronze Age and Early Greece (3) Includes Troy, the Cycladic islands, the Greek mainland, Crete, and Cyprus ca. 3000-700 B.C. Rise and fall of the Minoan and Mycenaean civilizations and their effect on the Aegean World and Cyprus. Evidence for daily life, religion, trade, and foreign contacts. Architecture, wall paintings, and artifacts. Prereq: One of the following: 232, 361, ancient history (Ancient Near East or Ancient Greece), or consent of instructor. Writing-emphasis course.

334 Cities and Sanctuaries of the Greek and Roman World (3) Major cities and sanctuaries in Greece, the Greek Colonies, and the Roman Empire. Approach is archaeological, focusing on physical evidence—landscape, architecture, and city plans. Literature as well as descriptions of ancient authors. Cities include Athens, Delphi, Olympia, and Rome, with particular emphasis on Athens. Writing-emphasis course.

362 Roman Law (3) This course covers the historical development of Roman law in the Classical period (50 B.C.-250 A.D.) with particular attention to the analysis of case law in the areas of contract, property, and wills. Prereq: Consent of instructor. Writing-emphasis course.

363 Roman Law (3) This course covers the historical development of Roman law in the Classical period (50 B.C.-250 A.D.) with particular attention to the analysis of case law in the areas of contract, property, and wills. Prereq: Consent of instructor. Writing-emphasis course.

364 Roman Law (3) This course covers the historical development of Roman law in the Classical period (50 B.C.-250 A.D.) with particular attention to the analysis of case law in the areas of contract, property, and wills. Prereq: Consent of instructor. Writing-emphasis course.

381 Greek Civilization (3) Major aspects of ancient Greek civilization: religion, fine arts, political, life, Mediterranean relations, the prominence of Athens, the role of modern archaeology in interpretation; emphasis on the sixth and fifth centuries B.C. Writing-emphasis course. (Same as Ancient Mediterranean Civilizations 381.)

382 Roman Civilization (3) Major aspects of ancient Roman civilization: political institutions, art and architecture, history, culture and daily life. Emphasis on the late Republican and early Empire. Writing-emphasis course. (Same as Ancient Mediterranean Civilizations 382.)

383 Women in the Greek and Roman World (3) The condition of women in the apparently male-dominated world of Classical Greece and Classical Rome. Evidence from literature, vase paintings, and other arts is examined from the age of Homer to the second century A.D. with special focus on Athens in the fifth and fourth centuries B.C. and Roman Italy in the first and second centuries A.D. (Same as Women's Studies 383.)

401 Greek Poetry (3) Epic, lyric, drama. Authors vary. May be repeated for credit. Maximum 9 hours. Prereq: 261.

402 Greek Prose (3) History, philosophy, and oratory. Authors vary. May be repeated for credit. Maximum 9 hours. Prereq: 261.

441 Special Topics in Classical Civilization (1-3) Topics in art, literature, religion, and society of Greece and Rome. May be repeated up to three times with consent of department.

461 Studies in Classical Archaeology (3) Variable content course offering subject matter not taught in an existing course, or concentration on one aspect of the examinee's study. May be repeated. Maximum 9 hours. Prerequisites: In accordance with topic.

491 Foreign Study (1-15)

**COLLEGE SCHOLARS HONORS**

317-318 College Scholars Seminar I,II (1,1) Sequence (in any order) limited to and required of all College Scholars each year. May be repeated. Maximum 8 hours. Satisfactory/No Credit grading only.

491 College Honors: Foreign Study (1-15) See Director of Special Programs. Primarily for College Scholars students.

492 College Honors: Off-Campus Study (1-15) See Director of Special Programs. Primarily for College Scholars students.

493 College Honors: Independent Study (1-15) See Director of Special Programs. Primarily for College Scholars students.

498 Honors: College Scholars Studies (2-12) Designed for College Scholars working on their senior thesis, project, or performance. May be repeated. Maximum 16 hours.

**COMMUNICATIONS (259)**

100 Introduction to Mass Communications (3) Overview of systems of mass communications, with emphasis on American media, their ownership, legal and social control, role and effects. Advertising, Broadcasting, Journalism, and public relations are examined in the context of theories of mass communications.

150 Communications in an Information Age (3) Overview of current and emerging communication systems including print, broadcast, multimedia video, telephony, and the Internet. Particular emphasis is given to the development of communications systems and their role in society.

300 Mass Communications Research Methods (3) Social science research methods, especially sample surveys, used by communications media. Applications to both research design and use of research in media. Prereq: Journalism 210, 220, Advertising 350, or Broadcasting 310 or 320, or Speech Communication 390, or consent of instructor. F, Sp

450 On-Line Electronic Publishing (3) Cross-disciplinary approach to design and production of on-line publications. Emphasis on research, planning, site content and design, and the economic, legal and ethical issues involved in online publishing. Prereq: Senior standing and consent of instructor.

**COMPARATIVE LITERATURE (260)**

202-203 Cross-Cultural Perspectives in World Literature (3,3) Literary perspectives and values in different time periods and cultures approached from an international context and including an introduction to the theory, methods, and objectives of comparative literature. Variable content. Writing-emphasis course.

401-402 Special Topics in Comparative Literature (3,3) Content varies. May be repeated. Maximum 15 hours. Prereq: Consent of instructor.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)
COMPUTER SCIENCE (266)

102 Introduction to Computer Science (4) Problem solving and algorithm development. Organization and characteristics of modern digital computers with emphasis on developing good programming habits, building abstractions with systems and data, and programming in a modern computer language. Students who have received credit for 140 or 160 may not also receive credit for 102 in this institution.

140 Data Structures (4) Advanced problem solving and algorithm development, structured programming, data structures and applications. I/O techniques, lists, queues, trees, heaps, algorithms. Alas. Prereq. 102. 3 hour lab required.

160 Computer Organization (4) Number systems, Boolean algebra, combinational and sequential circuits, registers, processor functional units and control, pipelining, memory and caching, stored program computing, memory management, computer system organization, assembly language programming. Prereq. 102. 3 hour lab required.

231 Lower-Division Special Topics (1-3) Topics vary. Programming languages, operating systems and applications software packages may be repeated. Maximum 9 hours.

300 Scripts and Utilities (1) Practical tools available under Unix to enable students to become more efficient in performing lab and research projects. Topics to be covered include: sh, cat, grep, find, sort, perl, awk, python, make, rosh, gcc, grep, pax, purify, scons. Prereq. 140 or consent of instructor. Satisfactory/No credit grading.

302 Fundamental Algorithms (3) Design, analysis, and implementation of fundamental algorithms, such as sorting and searching, and their data structures. Prereq. 140 and 160. 3 hour lab required.

311 Discrete Structures (3) Equivalence relations, partial orderings, combinations, permutations, algorithms of data, finite automata and regular languages. Prereq. 140, 160, and Math 300.

340 Foundations of Software Engineering (3) Principles of analysis and design of information systems. Principles of program design and verification, formal objects, formal specifications. Prereq. 140, 160, 311. 3-hour lab required.

360 Systems Programming (3) Introduction to user-level system calls, low-level control of hardware, process control, memory management, system utilities, network programming. Prereq. 302. 3 hour lab required.

365 Programming Languages and Systems (3) Language paradigms (procedural, functional, object-oriented), language design and implementation issues and language issues related to parallelism. Prereq. 302.

370 Introduction to Scientific Computing (3) The design, analysis, and implementation of numerical algorithms for solving problems in science and engineering. Emphasis on program design, including data structures, computational complexity, scientific computing environments, and high-performance software packages. Prereq. 140, M241, M251. 3 hour lab required.


420 Advanced Topics in Machine Intelligence (3) Topics such as search, learning, expert systems, neural networks, pattern recognition, and natural language processing may be repeated. Maximum 9 hours. Prereq: Completion of core curriculum or consent of instructor.

430 Advanced Topics in Hardware Systems (3) Topics such as architecture, parallel processors, microprocessors, networking, computer hardware, operating systems, emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

460 Advanced Topics in Software Systems (3) Topics such as operating systems, compilers, parallel computation, software engineering, database systems and programming languages. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

470 Advanced Topics in Scientific Computation (3) Topics such as numerical methods, supercomputers and computer modeling and simulation of physical systems. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

471 Numerical Analysis (3) (Same as Mathematics 471.)

472 Numerical Algebra (3) (Same as Mathematics 472.)

480 Advanced Topics in Theoretical Computer Science (3) Topics such as theory of computation, complexity theory, formal languages and automata theory, and its applications. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

493 Independent Study (1-15) Special project in area of student's primary interest. Directed by Computer Science faculty, may also be done under supervision of a faculty member. Project may be from a department other than Computer Science in which the student is working from the appropriate department will help oversee the project. May be repeated. Maximum of 6 hours may be applied to the major. Prereq: consent of instructor.

494 Special Topics in Computer Science (1-3) May be repeated. Maximum 9 hours.

COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (267)
205 Student Development I (1-3) Practise in acquiring knowledge and skill in areas such as interpersonal relations, career decision-making, communication and self-awareness. Individual and small-group format. May be repeated. Maximum 9 credit hours. S/N grading.

206 Facilitation of Technical Work Teams (3) Psychological and cultural dynamics of technical work team performance. Supervised experience in leading work teams, engineering students. supervision in personal and interpersonal effectiveness. Prereq. S/N grading.

212 Career and Personal Development (3) Systematic approaches to facilitating career development and life planning. F, Sp.

215 Learning Skills and Study Systems (3) Approaches to enhancing academic performance through study skills, efficient reading and understanding of personal factors.


404 Special Topics (1-3) Instructor initiated course offered at convenience of the department on various topics of current interest. Contact department for listing of topics to be covered. May be repeated. Maximum 15 hours. F.


410 Sex and Identity Development (3) Theories and research concerning the development of sexual role and its relevance in educational and counseling settings. (Same as Women's Studies 410.) F, Su.

431 Personality and Mental Health (3) Perspectives of mental health with applications to education and other social institutions. E

493 Independent Study (1-15) Independent investigation of problems in educational and counseling psychology. May be repeated. Maximum credit 15 hours. E

CULTURAL STUDIES IN EDUCATION (271)
290 Human Behavior (3) Theories and principles explaining human behavior; psychological factors related to and/or affecting motor skill acquisition and performance. Prereq: At least sophomore standing.

291 Sport in American Society (3) For all university undergraduates on the study of sport in American society from a sociological perspective. (Same as Sociology 281.)

302 School and American Society (3) Historical, philosophical, and social perspectives on contemporary education issues. F, Su

321 History of Sport and Physical Activity in Western Culture (3) Study of sport and physical activity ancient Greek period to modern times, illustrating historical role in western culture. Provides background for growth of sport in education, and explores how most modern college divisions, bearing a myriad of titles, developed. Prereq: Progression to major or consent of instructor.

356 Motor Development (3) Evolution of human motor behavior within the context of structural/functional changes, and with the respect to 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 developmental periods. Prereq: Progression to major or consent of instructor.

364 Contemporary Issues in African-American Education (3) (Same as African-American Studies 364.)

372 Philosophy of Sport (3) Theories of reality and values as they apply to sport with emphasis on ethical issues. Prereq: Progression to major or consent of instructor.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of Physical Education. May be repeated. Prereq: Progression to major or 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 and applications to teaching and coaching. Prereq: Progression to major or consent of instructor.

405 Sociology of Sport (3) (Same as Sociology 405.)

461 Education in Cultural Perspective (3) Contribution of anthropological concepts to understanding of educational processes; major conceptual frameworks; selected ethnographic research on process of schooling.

466 Motor Development Laboratory (3) Application of selected perceptual-motor development, movement education, and pedagogical concepts to performance assessment and motor task lesson design and presentation to normally developing preschool or primary grade children. Participation in intra- or interdisciplinary research. Prereq: Progression to major or consent of instructor.

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.

DANCE (274)
101 Practicum: Dance Production (1) Supervised technical and promotional production aspects of university dance company performance. Participation through audition only. May be repeated. Maximum 16 hours.

201 Practicum: Dance Performance (1-2) Preparation and presentation of university dance company performances. Participation through audition only. May be repeated. Maximum 16 hours.
**EARLY CHILDHOOD EDUCATION (279)**

410 Early Childhood Special Education Foundations (3) Introduction to the field of early childhood special education including the nature of disabling conditions; theoretical perspectives in the field; legislation; policies and procedures used in the field. Prereq: Admission to Teacher Education Program.

422 Early Childhood Teaching Methods (6) Methods and materials for teaching early childhood classrooms focusing on K-4th grade. Emphasis on holistic integrative approaches to curriculum development and presentation. Prereq: Pre-Education program coursework and admitted to Teacher Education.

445 Early Childhood Education: Program Development and Teaching in Kindergarten (3) Curriculum planning, classroom organization and management practices for teaching young children; relationship of kindergarten to total elementary school. Prereq: Admission to Teacher Education Program. E

471 Early Childhood Special Education (6) Assessment, curriculum planning and teaching approaches used in early childhood special education. Prereq: Admission to Teacher Education Program. F

472 Field Experience in Early Childhood Special Education An experience in educational settings serving young children with special needs. Provides experience in assessment, curriculum planning and teaching. Prereq: Admission to Teacher Education Program. May be repeated. Maximum 5 hours. E

**ECOLOGY AND EVOLUTIONARY BIOLOGY (278)**

202-203 Ecology and Evolutionary Biology Colloquium (1,1) Weekly discussions of current topics in ecology, evolution, and behavior biology. Coordinated by the Biology Department. May be repeated. Maximum 16 hours.

210 Ballet Level I (2) Instruction and practice in elementary modern dance techniques. May be repeated. Maximum 4 hours.

220 Jazz: Level I (2) Instruction and practice in elementary jazz dance styles and techniques. May be repeated. Maximum 4 hours.

230 Modern: Level I (2) Instruction and practice in intermediate modern dance styles and techniques. Available to minors or with consent of instructor. May be repeated. Maximum 12 hours.

235 Jazz: Level II (2) Instruction and practice in intermediate jazz dance styles and techniques. Available to minors or with consent of instructor. May be repeated. Maximum 12 hours.

239 Modern: Level II (2) Instruction and practice in advanced modern dance techniques. Available to minors or with consent of instructor. May be repeated. Maximum 12 hours.

240 Tap: Level II (2) Instruction and practice in intermediate tap dance techniques. Prereq: 240 or consent of instructor.

320 Ballet: Level II (2) Instruction and practice in advanced ballet techniques. Available to minors or with consent of instructor. Prereq: 210 or equivalent.

330 Modern: Level II (2) Instruction and practice in intermediate modern dance techniques. Available to minors or with consent of instructor. Prereq: 230 or equivalent.

340 Tap: Level II (2) Instruction and practice in intermediate tap dance techniques. Prereq: 240 or consent of instructor.

345 Composition I (2) Composition I (2) Coordinated by the Music Department. May be repeated. Maximum 16 hours.

350 Jazz: Level III (2) Instruction and practice in advanced jazz dance styles and techniques. Available to minors or with consent of instructor. Prereq: 230 or equivalent. Maximum 16 hours.

360 Modern: Level III (2) Instruction and practice in advanced modern dance techniques. Available to minors or with consent of instructor. Prereq: 230 or equivalent. Maximum 16 hours.

420 Jazz: Level III (2) Instruction and practice in advanced jazz dance styles and techniques. Available to minors or with consent of instructor. Prereq: 230 or equivalent. Maximum 16 hours.

430 Modern: Level III (2) Instruction and practice in advanced modern dance techniques. Available to minors or with consent of instructor. Prereq: 230 or equivalent. Maximum 16 hours.

440 Composition II (2) Coordinated by the Music Department. May be repeated. Maximum 16 hours.

445 Composition II (2) Coordinated by the Music Department. May be repeated. Maximum 16 hours.

450 Composition III (3) Application of choral and production skills culminating in the presentation of two works. Prereq: 440 or 445 or approval of instructor.

460 Dance History through the 19th Century (3) Survey of the dance of various societies and cultures from prehistoric times to the present. Historical and theoretical perspectives. May be repeated. Maximum 16 hours.


493 Directed Independent Studies (1-3) Independent study in a specialized area with dance. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

495 Dance Pedagogy (3) Principles and methods of the teaching of dance with practical application in a mini-teaching experience. Prereq: Upperclass or graduate standing and approval of instructor. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

499 Perspectives in Ecology and Evolutionary Biology (3) 409 Frontiers of ecology, evolution, and evolutionary biology. Emphasis on current developments for application in understanding societal and economic impacts and moral and ethical dilemmas. Writing emphasis course. Oral presentation and a refereed library-research essay required.

411-412 Minitext Course in Ecology and Evolutionary Biology A selection of topics on the history, behavior, and evolutionary biology, concentrated in time and subject matter. Consult departmental listing for topics offered Spring of year. Prereq: Advanced standing. May be repeated for credit but a maximum of 4 hours may be applied toward the department major.

431 Plant Ecology (3) (Same as Botany 431.)

446 Introduction to Oceanography (4) Basic oceanography, including physical, chemical, biological and geological processes and patterns. Emphasis on oceanic ecosystems, such as upwellings, polar oceans, hydrothermal vents, gyres, coral reefs, estuaries, and coastal regions. Field trips to coastal areas required. Prereq: General Biology and Chemistry 120, 130; Biology 250 recommended.

450 Comparative Animal Behavior (3) Principles and methods of ethology with emphasis on ecological, developmental, physiological and evolutionary aspects. (Same as Psychology 450.)

459 Comparative Animal Behavior Laboratory (3) Introduction to observational and experimental research in ethology. Coreq: 450. (Same as Psychology 450.)


461 Special Topics in Organismal Biology (3) Evolution, ecology, biogeography, classification, and anatomy of selected animal and plant taxa. Prereq: Biology 250 or consent of instructor.

470 Aquatic Ecology (3) Introduction to the physiological nature of intertidal systems and their interrelationships. Prereq: Biology 120-130 and Biology 230. 2 hours and 1 lab.

474 Ichthyology (4) Evolution, classification, collection and 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 Field Ornithology (2) Intensive week field course designed to introduce students to the behavior, ecology, and field identification of birds. Prereq: Biology 250 and consent of instructor. 2 hours and 2 labs.


490 Undergraduate Seminar (1) Student oral presentations of topics related to development and working concepts of ecology and evolution. All majors are encouraged to enroll. Coreq: Upper division standing in the Biology major. May be repeated for a maximum of 2 hours credit.

493 Independent Study (1-18) Independent study under the direction of a faculty member. Consent of instructor required. May be repeated for up to 15 hours. A maximum of 3 hours may be applied toward major.

530 Introduction to Economics (3) Theories of microeconomics, supply and demand, costs of production, market models, national income and employment theory, money and banking, macroeconomics, fiscal policy, debt, and international economics.

207 Honors: Introductory Economics (4) Honors course for students of superior ability and interest. Prereq: 201 on the basis of GRE scores.

311 Intermediate Microeconomics (3) Theories of consumer behavior, production and costs, price and behavior of firms in perfect competition, monopolistic competition, and oligopoly. Elasticities, income distribution, welfare and general equilibrium. Prereq: 201.
345 Aerospace Engineering Instrumentation and Measurement (3) Fundamentals of measurement systems; standards; dynamic characteristics of instruments; statistical data treatment; transducers; signal conditioning; strain, pressure, temperature and flow measurements. Coreq: ME 363. Prereq: ES 341, EE 301. F, Sp

351 Compressible Flow (3) One-dimensional internal flow with shocks, friction and non-adiabatic conditions. Two-dimensional external flows. Prereq: ES 341, ME 332. Sp

362 Dynamics/Vibrations (3) Central force motion, transfer orbits, free and forced vibrations of single and multiple degree systems. Prereq: ES 231. F


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

422 Aerodynamics (3) Theory and design of aerodynamic bodies for desired characteristics. Potential flow theory, viscous effects, compressibility effects. Subsonic, transonic, and supersonic airfoils. Prereq: 351, 370. F

424 Astronautics (3) Orbital mechanics, propulsion, atmospheric reentry of space vehicles including re-entry thermal protection materials, human factors in space flight, the space environment, and current topics. Prereq: 351. Coreq: ME 344. F

425 Propulsion (3) Principles of propulsion devices; turbojet, ramjet and rocket engines. Prereq: 351. F


429 Aerospace System Design (4) Synthesis and design of a complete aerospace system including economic and technical aspects. Participation in team design effort including formal presentations and design report. Prereq: 422, 425, 426. Sp

431 Mechanical Engineering/Aerospace Engineering Seminar (1) Topics related to engineering including ethics. Format: Presentations by students on engineering topics. Prereq: Senior standing. F

449 Aerospace Engineering Laboratory (3) Designing, conducting, and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formulation of conclusions. 3 hours lab per week. Prereq: 345, 351, 425. Sp

ENGINEERING BIOMEDICAL (192)

271 Introduction to Biomedical Engineering (3) Application of the skills developed in Engineering Fundamentals for biomedical engineers. The relationship of anatomy, physiology, and biochemical engineering to the design of artificial organs, orthopedic implants, imaging, and other biomedical applications is explored. Prereq: EP 102.

300 Engineering Physiology (3) The study of human physiology, with an emphasis on making engineering decisions, and the development of computational models. Prereq: BME 271, BIOL 140-140.

301 Biomedical Seminar (1) Engineering Profession seminar and career planning seminars on current BME topics. Satisfactory/No Credit. Prereq: Junior Standing in BME.

310 Biomechanics (3) The application of mechanics of materials and fluid mechanics to biomedical engineering problems. The special characteristics of living tissue and biological fluids and their effects on computational problems will be introduced. Prereq: ES 231, 341; BME 300.

346 Design of Experiments (3) Study of probability and statistic and design of experiments as applied to biomedical engineering. The use of statistical tools to biomedical experimentation, manufacturing methods, and biomedical research planning. Prereq: BME 300, Math 200. 240.


430 Biomedical Engineering Laboratory (3) This course provides experience with the use of unique problems associated with making measurements and interpreting data in living systems: experiments may include electrical safety, biology, fluid flow, mechanical testing of biological materials, and human measurements. Prereq: BME 310, BME 346.

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

455 Biomedical Engineering Design I (2) Engineering economics, optimization, design for automation, reliability, patents and product liability; design of biomedical systems. Participation in team design efforts: requires design report. Prereq: BME 510, MSE 474.

469 Biomedical Engineering Design II (3) Design of complete biomedical device: documentation includes complete specification design calculations, preparation of working drawings, and cost analyses. Written and oral reports. Prereq: BME 430, BME 455.

473 Applied Biomechanics (3) Applications of biomechanics to the industrial and orthopedic area. Design of orthopedic prostheses and orthopedic immobilization and protection. Prereq: ES 321, MSE 474, BME 310.

ENGINEERING CHEMICAL (226)


230 Introduction to Chemical Engineering Thermodynamics (3) Introduction to the laws of thermodynamics, state functions, and their conceptual basis. Ideal systems, the gas law, Raoult's law, and deviations from ideal behavior (fugacity and activity). Introduction to the principles of statistical mechanics and quantum mechanics. Prereq: EN 140, 141. F

240 Fluid Flow and Heat Transfer (4) Force, energy and mechanical energy balances; flow in tubes, piping systems, packed and fluidized beds; pumping and metering; steady and unsteady state heat conduction; heat transfer in layers; radiation. Prereq: 200, Mathematics 241; Coreq: Mathematics 231.

301 Chemical Engineering Data Analysis (3) Analysis of experimental data, identification of system extrema; statistical properties of samples; empirical modeling of processes; statistical process control; optimization techniques. Prereq: Math 200.


330 Application of Chemical Engineering Thermodynamics (3) Basic concepts related to chemical engineering applications of thermodynamics. Emphasis on flow processes, real gases and liquids, estimation of physical properties, phase equilibrium of industrial mixtures, compressors, power cycles, and chemical reaction equilibrium. Prereq: CHE 230.

340 Mass Transfer and Separation Processes (3) Two-staged operation; application of analytical, graphical and computer methods to study of mass transfer and separation processes. Coreq: Math 142 or consent of instructor.

408 Honors Seminar (1) Presentations and discussions on topics of importance to chemical engineers. Coreq: Consent of instructor. Satisfactory/No Credit grading. May be repeated once.

409 Honors Seminar (1) Presentations and discussions on topics of importance to chemical engineers. Coreq: Consent of instructor. Satisfactory/No Credit grading. May be repeated once.

410 Chemical Engineering Laboratory II (3) Laboratory investigations of mass transfer and chemical reaction phenomena in chemical engineering. Prereq: 310, 450.

415 Computer Applications in Chemical Engineering (3) Introduction to computer solution of chemical engineering problems. Primary focus on the application of personal computers, including flow sheet simulators, statistics, spreadsheets, graphics and process modeling.


445 Separation Process Technology (3) Multicomponent distillation, theory and computer simulations; humidification; specialized technologies, including membrane separation, crystallization, distillation, adsorption, ion exchange, etc. Prereq: 340.

447 Honors: Transport Phenomena (3) Overview of momentum, heat and mass transfer processes, the anatomy of interfacial and transport phenomena, and applications involving molecular diffusion, including simultaneous mass transfer and chemical reaction. Prereq: 340 and consent of instructor.

450 Chemical Reactor Fundamentals (3) Homogeneous and heterogeneous reactions and; and heterogeneous reactor models, both for closed and flow systems; corrections for non-ideal residence time distributions; identification of scaling parameters; catalyst effectiveness factors and conversion in fixed bed catalytic reactors. Prereq: 240, 340, 360, 301.

467 Honors: Engineering Internship in Process Control (4) Selected students work in small groups on industrial problems in process dynamics and control. Directed by faculty or engineers from host company. Prereq: 360 and consent of instructor.

470 Honors: Applied Process Automation Laboratory (3) Interfacing flexible batch continuous processes to automation systems. Top down analysis with bottom up implementation, hierarchical structures and object oriented computer concepts are used to design automation solutions including human-machine-interfaces. Workstations with modern industrial equipment provide an interactive graphics and visual programming environment. Prereq: 360 and consent of instructor.

478 Honors: Applied Process Automation Design Projects (3) Industrial programmable logic controllers (PLCs) and industrial automation and human-machine interfaces (HMIs) software are used on workstations to develop automation solutions by small teams of students. Advanced control strategies, networking and internet issues. Prereq: 477 and consent of instructor.

485 Hydrocarbon Processing (3) Chemical and physical properties of selected petroleum and processes utilized in conversion of raw material into various fuels and selected petrochemical feedstocks. Prereq: 340. Chem 350.


494 Special Problems in Chemical Engineering (3) Chemical engineering problems related to recent developments in industrial practices or research. Prereq: Consent of instructor. May be repeated. Maximum credit hours.

498 Honors Thesis (3) Research in problems related to recent developments in chemical engineering. Prereq: Consent of instructor.

ENGINEERING CIVIL AND ENVIRONMENTAL (254)

205 Professional Development I (2) Introduction to civil engineering specialties, history, and achievements. Professional responsibilities, communication, and organizations. Prereq: Sophomore Standing.

210 Engineering Measurements (4) Measurement through application of surveying techniques; theory of errors and their analysis; concepts of horizontal, vertical and angular measurements; control; construction surveys; route surveys through vertical and horizontal curves; and introduction to GIS and GPS. 3 hours, 1 lab. Prereq: Sophomore Standing.

261 Structural Analysis I (3) Reactions; shear and moment diagrams; forces in trusses; uniaxial stress and strain; area moments of inertia; torsion. Prereq: Eng. Eng. Fundamentals 102.

305 Professional Development II (1) Legal and ethical responsibilities; professional improvement, career planning, and leadership. Prereq: 205.


351 Transportation Engineering I (3) Transportation problems and perspectives, rural and urban; use of systematic planning processes; development of alternatives and the environmental impact of projects. Civil engineering decision making and applications of economic analysis. Design of transportation terminals, airports, parking, etc. Prereq: 210.

352 Transportation Engineering II (3) Introduction to design, construction, maintenance, and operation of various transportation modes; their guideways and terminals, primarily highways and railroads. Prereq: 351.

361 Structural Analysis II (3) Stress and strain in beams and columns; bending moment, shear force, circle; influence lines; deflections and beams and trusses. Conventional analysis of indeterminate structures; moment distribution. Prereq: 281.

380 Water and Waste Treatment (3) Principles of unit operations employed in physical, chemical, and biological treatment of water, wastewater, and solid wastes. Prereq: Junior standing and 390.

390 Hydraulics (4) Basic laws and properties of incompressible fluids. Units and dimensional analysis; drag forces; continuous mass momentum equations; pipe flow; flow measurement; open channel flow and culverts; pump characteristics; 3 hours, 1 lab. Prereq: 305 or Biotechnology 301. (Same as Engineering Fundamentals 102; Nuclear Engineering 203.)

395 Hydrology (3) Concept of hydrologic cycle; weather patterns; precipitation measurement and distribution, abstraction, and storage; storm hydrograph and peak flow analyses, including design floods; reservoir and channel routing; rainfall and streamflow frequency analyses; groundwater flow. Prereq: 390.

400 Senior Design Project (3) Open-ended, comprehensive project emphasizing team approach to design process. Includes problem formulation, site planning, project management, drawings and specifications, cost estimation and computer simulation of civil engineering projects. Must be taken during the last 15 hours of curriculum.

401 Review of Engineering Fundamentals (1) Review of selected topics covered on the Fundamentals of Engineering exam. Emphasis is on those topics dealing with Civil and Environmental Engineering. Letter grade only. Prereq: Must be taken during the last 15 hours of the curriculum.

409 Special Topics (1-3) Recent developments and current practice in civil and environmental engineering through field internship and/or self-study. Prereq: Consent of instructor and department head. May be repeated.

412 Portland Cement Concrete Mix Design and Analysis (3) Aggregate properties and tests, tests of portland cement and concrete, mix design methods, admixtures, and nondestructive testing. Two lectures and 1 lab. Prereq: 321.

413 Geological Engineering (3) Influence of geologic origin and history on the engineering characteristics of rocks and soils; applications of geology in the planning, design and construction of civil engineering projects. 2 hours, 1 lab hour. Prereq: 330 or consent of instructor.

430 Foundation Engineering (3) Fundamentals of geotechnics applied to design and analysis of soil-structure systems; subsurface investigation; design of shallow and deep foundations on rock. Lateral earth pressure and retaining structures. Prereq: 330.

431 Geotechnical Engineering (3) Design of foundations and analysis of soil-structure interaction; bearing capacity; piled foundations; and stability analysis. Three lectures and 1 lab. Prereq: 330.

435 Foundation Engineering (3) Fundamentals of geotechnics applied to design and analysis of soil-structure systems; subsurface investigation; design of shallow and deep foundations on rock. Lateral earth pressure and retaining structures. Prereq: 330.

440 Structural Systems Design and Management (3) Methods of data analysis and modeling of civil engineering systems to enhance resource allocation for specific application to problems of transportation, environmental, and structural concrete, mix design methods, admixtures, and nondestructive testing. Two lectures and 1 lab. Prereq: 321. Senior standing and 313.

442 Construction Methods and Equipment (3) Fundamentals of construction and equipment selection; productivity; safety; and structural concrete, mix design methods, admixtures, and nondestructive testing. Two lectures and 1 lab. Prereq: 330.

451 Highway Engineering (3) Design, construction, operation, and maintenance of highway facilities; design application of various engineering principles and techniques to process of planning, locating and design of highway facilities; covers both geometric and pavement design. Prereq: 210, 251, 352.

452 Traffic Engineering (3) Characteristics of drivers, vehicles, and roadway and their interaction; traffic studies; traffic control systems; design of traffic and control, lighting, capacity analysis, roadway safety analysis, and design. Prereq: 210, 251, 352.

453 Airport/Railroad Planning and Design (3) Airport master planning and railroad engineering. Runway configuration, airfield capacity, geometric design and terminal layout and design. Railroa d capacity, geometry, and system layout at design. Prereq: 210, 251, 352.

455 Airport/Railroad Planning and Design (3) Airport master planning and railroad engineering. Runway configuration, airfield capacity, geometric design and terminal layout and design. Railroa d capacity, geometry, and system layout at design. Prereq: 210, 251, 352.

456 Analysis of Framed Structures (3) Vertical and lateral force resisting systems; loads due to dead and live, snow loads; lateral loads due to earthquake and wind; use of computer in structural analysis; building code requirements. Prereq: 210, 251, 352.

471 Introduction to Structural Design (3) Selection of rolled structural steel beams, design of structural steel members for axial tension and compression loads, reinforced concrete beams and columns, stress analysis of members. Use of standard specifications. Prereq: 381.

472 Steel Design (3) Design of plate girders and composite beams; consideration of members subjected to combined stresses; design of a typical framed building including connections. Prereq: 471.

474 Reinforced Concrete Design (3) Design of continuous beams, floor slabs, and columns. Analysis of reinforcement axial loads and bending, footings; and design for torsion. Prereq: 471.

480 Water and Waste Transport (3) Theory and design of water conveyance systems, and wastewater collection systems. Prereq: 390.

485 Principles of Hydrogeology (3) (Same as Geology 485.)

486 Air and Waste Management (3) Principles of air quality management, solid waste management and hazardous waste management. Review of regulations, environmental quality, transport of pollutants, and control technologies including treatment and disposal. Prereq: 390 or Civil Engineering 200 or Agricultural Engineering 243.

490 Water Resources Project Design (3) Development of multipurpose reservoir and dam project, including data acquisition; spillway and outlet works design; earth dams and embankments; dam safety concepts, including dam break analyses. Prereq: 390, 395, 400, 480.

495 Hydrology (3) Concept of hydrologic cycle; weather patterns; precipitation measurement and distribution, abstraction, and storage; storm hydrograph and peak flow analyses, including design floods; reservoir and channel routing; rainfall and streamflow frequency analyses; groundwater flow. Prereq: 390.

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

ENGINEERING ELECTRICAL AND COMPUTER (319)

201 Circuits I (3) Fundamental laws of circuit analysis. Ohm's Law, Kirchhoff's current and voltage laws; the law of conservation of energy; circuits containing independent and dependent sources, real and imaginary sources, resistance, conductance, capacitance, and inductance analyzed using mesh and nodal analysis, superposition, and source of transformations; and Norton's and Thevenin's Theorems. Steady state analysis of DC and AC circuits. Complete solution for transient analysis for circuits containing one and two instability elements. Prereq: All course work in Freshman Electrical Engineering. Coreq: Math 231; 205 or both CS 210 and Math 251.

202 Circuits II (4) Operational amplifiers, average, complex, imaginary and real power; effective values of voltage and current; three phase circuits, delta and wye connections. Complex frequency, sinusoidal forcing functions and natural response. Resonance; general case of resonant circuits; inductive and capacitive circuits. Scaling; magnitude and frequency. Mutual inductance, transformers as circuit elements; linear and ideal transformers. Admittance, impedance and hybrid parameters. Trigonometric and complex Fourier series. Includes laboratory exercises. Prereq: 201 and Math 231.

205 Electrical Engineering Computations (3) Linear algebra; complex analysis and phasor calculus; algorithms for roots of equations; Programming in C and use of the application language MATLAB. Includes Level 1 design projects which require laboratory work. Coreq: Math 231.

251 Small Computer Systems (3) Structured assembly language programming, data collection under the control of the personal computer using A/D Converters; D/A Converters communicating to CRT displays; on-line, real time analysis using elementary filter communications between computers; circuit analysis. Includes Level 1 design projects which require laboratory work. Prereq: 201; 205 or both CS 210 and Math 251.

301 Circuits and Electro Mechanical Components (3) DC and AC Circuits, Transistors, Transformers, Motors, Generators. For non-majors only. Prereq: Mathematics 11, Physics 101.

472 Fundamental Principles of Composite Materials
(3) Physical principles basic to the design, manufacture, and application of fiber reinforced polymers, metals, and ceramics. Prereq: 302 or equivalent. (Same as Engineering Science 302.)

474 Biomaterials (3) Metals, polymers and ceramics utilized in orthopedic, cardiovascular, and dental surgical implant devices; corrosion and degradation problems; mechanical properties of primary importance; tissue response to synthetic materials. Prereq: 201. Recommended for engineering science and mechanics majors.

475 Fracture-Safe Design (3) (Same as Engineering Science 423).

484 Introduction to Maintenance Engineering (3) (Same as Nuclear Engineering 484).


495 Special Project Laboratory (1-3) Group or individual investigation of problems related to materials science and engineering. May be repeated to a maximum of 6 credits. Prereq: 201 and consent of instructor.

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

499 Special Topics in Materials Science and Engineering (1-3) May be repeated. Prereq: permission of instructor.

ENGINEERING MECHANICAL (650)

331 Thermodynamics I (3) Energy and laws governing energy transformations; thermodynamic properties; thermodynamics of real gases; applications to problems. Prereq: Chemistry 130. Coreq: Mathematics 241. F, Sp, Su

332 Thermodynamics II (3) Properties of gases and mixtures; engineering fluids; equilibrium; compressible flow; applications to engineering problems. Prereq: 331. F, Sp, Su

344 Heat Transfer (3) Heat transfer by conduction, thermal radiation, free and forced convection. Prereq: 351, 391, ES 491. F, Sp, Su


365 Elements of Machine Design I (3) Motion and forces related to plane and special mechanical linkages, Kinematics and geometry of gear motion, Blinks and clutches. Mini-design experiences. Prereq: Mathematics 231, 231. F, Sp, Su


405 Microcomputer-Based Control of Electromechanical Systems (3) Application of microcomputers to control electromechanical devices. Application and theory: dynamics of machine control, assembly language programming, microcontroller architecture, stepping and DC motors, photoelectric devices, AD, DA, interpreted circuits. Prereq: EE 391 or EE 301 and consent of instructor.

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


451 Systems and Controls (3) Analytical models of physical systems; comprised of combinations of mechanical, fluid, 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: ME 345, EE 301. F, Sp

455 Introduction to Machine Design (2) Introduction to the study of machine design. Design of machine elements. Design of mechanical components and systems. Prerequisites: In team design effort; requires design report. Prereq: ME 363, F

465 Introduction to Thermal Design (2) Engineering systems, optimization, design for automation, reliability, testing, and design life. Use of computer-aided engineering systems. Prerequisites: In team design effort; requires design report. Prereq: 342, 354. F

466 Advanced Physical Electrical Engineering (3) Application of physics and electrical engineering principles to the design of modern electrical, mechanical, and electronic systems. Prereq: Mathematics 201, ES 321. F, Sp

469 Machine Design (4) Design of complete machines; documentation including specifications, design calculations, working drawings, and cost analysis. Written and oral report. Prereq: 366, 455, 466. Sp

471 Refrigeration and Air Conditioning (3) Refrigeration systems and properties of gases and liquids; heat pumps; psychrometric processes; air washers; cooling towers; solar radiation; building heat transmission. Prereq: 332. F

475 Thermal Engineering (3) Thermal systems with emphasis on turbomachinery, heat exchangers, combustion and system analysis and design including second law and economic analysis. Prereq: 332, 344, F, Sp

479 Thermal Engineering Design (4) Design of a complete thermal-fluid system including economic, technical and optimization aspects. Participation in team design effort including formal presentations and design report. Prereq: 456, 475. Sp

484 Introduction to Maintenance Engineering (3) (Same as Nuclear Engineering 484).

484-495 Selected Topics in Mechanical Engineering (1-5) May be repeated. Prereq: 332, 344, 345.

ENGINEERING NUCLEAR (716)

200 Introduction to Nuclear and Radiological Engineering (1) Topics related to nuclear and radiological engineering. Satisfactory/No Credit.

203 Thermodynamics I (3) First law analysis of open systems; heat and work; energy conservation laws; entropy; thermodynamic cycles. Prereq: Mathematics 142.


304 Nuclear and Radiological Engineering Laboratory (1) Radiation detection and counting instrumentation, computing statistical routines, real gamma spectrometry, heat transfer experiments. Prereq: 342. Coreq: 470.

305 Energy Transport (3) Study of the transfer of energy and mass, heat conduction, convection and conduction; nuclear physics, fission of reactor fuel elements, reactor cores, and reactor heat exchangers. Prereq: 203.


449 Nuclear and Radiological Engineering Laboratory (3) Radiation detection and counting instrumentation, computing statistical routines, real gamma spectrometry, heat transfer experiments. Prereq: 342. Coreq: 470.

456 Introduction to Fusion Energy (2) (Same as Electrical Engineering 456.)

464 Introduction to Fusion Energy II (3) (Same as Electrical Engineering 464.)


479 Thermal Engineering Design (4) Design of a complete thermal-fluid system including economic, technical and optimization aspects. Participation in team design effort; requires design report. Prereq: 332, 344, 345.

484 Introduction to Maintenance Engineering (3) Topics related to nuclear and radiological engineering. Satisfactory/No Credit.

484-495 Selected Topics in Mechanical Engineering (1-5) May be repeated. Prereq: 332, 344, 345.


499 Advanced Physical Electrical Engineering (3) Application of physics and electrical engineering principles to the design of modern electrical, mechanical, and electronic systems. Prereq: Mathematics 201, ES 321. F, Sp

500 Introduction to Nuclear and Radiological Engineering (1) Topics related to nuclear and radiological engineering. Satisfactory/No Credit.

503 Thermodynamics I (3) First law analysis of open systems; heat and work; energy conservation laws; entropy; thermodynamic cycles. Prereq: Mathematics 142.

505 Energy Transport (3) Study of the transfer of energy and mass, heat conduction, convection and convection; nuclear physics, fission of reactor fuel elements, reactor cores, and reactor heat exchangers. Prereq: 203.
ENGINEERING SCIENCE (335)

231 Dynamics (3) Kinematics of rigid bodies; center of mass; kinetics of systems of particles; mass moments of inertia; kinetics of rigid bodies by stress intensity factors, strain energy release rates, J integral, COD data, transition temperature tests; use of fracture toughness data in design. Prerequisites: ES 231, Mathematics 241. F, Sp, Su


322 Mechanics of Materials II (3) Analysis and design of beams, shafts and machine elements; energy methods, thick-walled pressure vessels, inelastic bending and torsion, theories of failure and fatigue. Prerequisite: 321. F

323 Mechanical Behavior of Materials (3) (Same as Materials Science 320) Sp

341 Fluid Mechanics I (3) Introduction to fluid flow concepts; hydraulic transients; development of mass, momentum, and energy conservation equations; basic fluid properties and their applications. Prerequisite: Mathematics 231, 241. F, Sp, Su

423 Fracture-Safe Design (3) Critical view of variables controlling fracture toughness: size and flaw geometry, temperature, stress level, crack tip shielding factors, stress intensity factors, strain energy release rates, J integral, COD data, transition temperature tests; use of fracture toughness data in design. 3 hours or 2 hours and laboratory. Prerequisite: 321 and Materials Science 201. (Same as Materials Science 473.)

426 Fundamental Principles of Composite Materials (3) (Same as Materials Science 472.)

429 Introduction to Ceramic Matrix Composites (3) Characteristics of ceramic materials (including ceramics, composites, macromechanics and materials design; overview of fabrication techniques; microstructural characterization; physical properties and their correlations to current and potential applications. Prerequisite: MSE 201 and MSE 321, or equivalent. (Same as Materials Science 429.)

442 Fluid Mechanics II (3) Integral forms of linear and angular momentum equations and applications to pumps and turbomachinery; performance similarity; differential conservation equations; internal one-dimensional incompressible and compressible flow; potential flow; methods of flow measurement; laboratory. Prerequisite: 341, Mathematics 231, 241. Sp

452 Computational Mechanics (3) Integration of fundamental physics and mathematical and computational techniques into the conceptualization and design of computational techniques. Finite element method. Computational techniques and methods. Prerequisite: ES 321 F.

453 Projects in Design (3) Conceptualization, analysis, design, and critical evaluation of engineering projects. Prerequisite: Senior standing in ES, 301, 201; a minimum of C average in 321, 321, and 341. Coreq: ME 344. F

454 Computational Mechanics in Design (3) Computationally oriented approach to engineering design problems. Prerequisite: 453.

465 Dynamic Data Acquisition (3) Use and calibration of instrumentation for measuring and recording dynamic events; Fourier analysis, transfer function analysis, digital signal processing, data accumulation, experimental parameter estimation with applications to modal vibration analysis. 2 hours and laboratory. Prerequisite: EE 301, ME 363.

471 Clinical Engineering and Bioinstrumentation (3) Function and characteristics of health care delivery systems including hospital automation and health care economics; development and management principles for a hospital-based clinical engineering program. Biomechanics under system operational characterizations; performance characteristics of diagnostic and therapeutic monitoring data; data output and documentation, design and evaluation of commercially available systems, selection and procurement methods, custom designs, equipment maintenance and control programs for hospitals. Ethical issues and professionalism in clinical engineering. Prerequisite: 271, EE 391.

475 Design of Artificial Internal Organs (3) Design, development and evaluation of artificial internal organs: analysis of transport processes in therapeutic devices for design optimization and industrial manufacturing of currently available devices; federal regulation and ethical considerations. Prerequisite: 341, Mathematics 231.

476 Transport Phenomena in Living and Life Support Systems (3) Application of mass, momentum and heat transfer theory to quantitative analysis of in vivo physiological function: analysis of transport phenomena in life support systems including design considerations for artificial organs and life support systems; heat transfer in living systems and extracorporeal biomedical devices. Prerequisite: 271, Math 231.

494-495 Special Engineering Science Topics (1-3,1-3) Problems related to design and practice. May be repeated once for credit. Prerequisite: junior or senior standing, consent of instructor.

ENGLISH (339)

Completion of the English composition requirement is prerequisite to all other English courses.

101 English Composition I (3) Strategies for written argumentation, critical reading, and discussion, emphasis on audience analysis, the invention and arrangement of ideas, and revision for style and mechanics; typical assignments include research paper, class essay, and technical report. Prerequisite: Consent of instructor. Writing emphasis course.

102 English Composition II (3) Critical strategies for reading and writing about literature; emphasis on the documented essay, library skills, and continued development of style and voice; typical assignments include research paper, class essay, and technical report. Prerequisite: Consent of instructor. Writing emphasis course.

103 Writing Workshop I (1) Self-paced Writing Center tutorial for students writing additional instruction while enrolled in English 101 or having ACT English and composite scores at or below 18 (or SAT verbal/composite scores at or below 450/650). Individual instruction in mechanics, paragraph development and essay structure. To receive credit, a student must participate at least two hours per week and must pass the 102 class in which he or she is currently enrolled. 1 hour. A, B, C, NC grading.

104 Writing Workshop II (1) Self-paced Writing Center tutorial for students writing additional instruction while enrolled in English 102 or students advised to enroll by their 102 instructor. Individual instruction in critical reading and in developing a critical reading, developing a research paper. To receive credit, students must participate at least two hours per week and must pass the 102 class in which they are currently enrolled. Prerequisite: English 101. S/C grading.

118 Honors English Composition (3) For students whose ACT English and composite scores are at or above 26 (or SAT verbal/composite scores at or above 660/1250). Grading scale and class requirements same as in regular sequence though course proceeds at an accelerated pace. Practice in argumentation, critical reading, interpretation of literary texts, and research methods. May include the study of a long work of literature in addition to readings in nonfiction, short fiction, poetry, and drama. Students receiving a grade of B in 118 will complete a year's work in English Composition by taking 102. Students receiving a grade of A or B will complete their freshman English requirements. 3 hours and a sophomore literature course in the English Department, or 355. A, B, C, NC grading.

121 Academic English for Non-Native Speakers (4) Development of English academic literacy, including reading, writing, vocabulary, and grammar as well as skills attention to listening, oral presentation, and pronunciation. Required of all English speaking students who demonstrate on the English Placement Examination a need for work in English structures, reading, or writing. Prerequisite: course by the English Placement Exam only. Meets four hours a week. A, B, C, F grading.

123 Composition for Non-Native Speakers of English I (3) Paragraph and composition organization and development with emphasis on informative and persuasive writing. Includes grammar and mechanics. Individual conferences. Admission to this course by the English Placement Exam only.

124 Composition for Non-Native Speakers of English II (3) Writing based on reading and discussion. Analysis of works of literature. Emphasis on research techniques and writing research papers. Individual conferences. Admission to this course by the English Placement Exam only. A, B, C, NC grading.

201 British Literature I: Beowulf through Johnson (3) Major literary works from three periods: Middle Ages, Renaissance, and Restoration and Eighteenth Century. Writing emphasis course.

202 British Literature II: Wordsworth to the Present (3) Major literary works from three periods: Romantic, Victorian, and Twentieth Century. Writing emphasis course.

204 Honors British Literature I (3) Enriched section of 201 designed for students with a 3.25 or higher GPA.

208 Honors British Literature II (3) Enriched section of 202 designed for students with a 3.25 or higher GPA.

211 Literature of the Western World I: Ancient, Medieval, and Renaissance (3) Writing-emphasis course.

212 Literature of the Western World II: Enlightenment, Romantic, and Modern (3) Writing-emphasis course.

231 American Literature I: Colonial Era to the Civil War (3) Development of American literature from its beginnings to the Civil War. Writing emphasis course.

232 American Literature II: Civil War to the Present (3) Development of American literature from the Civil War to the present. Writing emphasis course.

233 Major Black Writers (3) Black American literature as a literary tradition. Writing-emphasis course.

237 Honors American Literature I: Colonial Era to the Civil War (3) Enriched section of 231 designed for students with a 3.25 or higher GPA.

238 Honors American Literature II: Civil War to the Present (3) Enriched section of 232 designed for students with a 3.25 or higher GPA.

251 Introduction to Poetry (3) Poetry as a distinct mode of artistic expression. Critical tools for perceptive reading of poems. Writing-emphasis course.

252 Introduction to Drama (3) Critical tools for perceptive reading of plays. Writing-emphasis course.

253 Introduction to Fiction (3) Fiction from the eighteenth through the twentieth centuries, emphasis on the novel. Critical tools necessary for judging varieties of fiction. Writing-emphasis course.

254 Themes in Literature (3) Study of important themes in English, American, and World literatures. Some sample themes: love, war, time, evil, sleep, madness, technology, revolution, colonization, liberation, education. Multi-genre focus. Writing-emphasis course. See Timetable for topic.

256 Introduction to Creative Writing (3) Practice in writing poetry and fiction, combined with study of models and techniques. Writing-emphasis course.

281 Introduction to Film Studies (3) Selected world cinema feature films. Critical techniques necessary for understanding and analysis of narrative cinema. Basic elements of film expression and production. Writing assignments. (Same as Cinema Studies 281.)

286 Business and Technical Writing (3) Principles of written communication in science and business.

301 British Culture to 1660 (3) British culture in the context of the literature of the period. Writing emphasis course.

318 Academic English for Non-Native Speakers (4) Development of English academic literacy, including reading, writing, vocabulary, and grammar as well as skills attention to listening, oral presentation, and pronunciation. Required of all English speaking students who demonstrate on the English Placement Examination a need for work in English structures, reading, or writing. Prerequisite: course by the English Placement Exam only. Meets four hours a week. A, B, C, F grading.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>405</td>
<td>Shakespeare II: Later Plays</td>
<td>Shakespeare’s dramatic achievement between 1601 and 1613. Selected plays from the great tragedies (e.g., Othello), the problem plays (e.g., Measure for Measure), and the dramatic romances (e.g., The Tempest).</td>
</tr>
<tr>
<td>406</td>
<td>Renaissance Drama</td>
<td>English theatre between 1590 and 1640. Representative plays by Shakespeare’s contemporaries (e.g., Marlowe, Webster, Jonson).</td>
</tr>
<tr>
<td>409</td>
<td>Spenser and his Contemporaries</td>
<td>Principal achievements in prose and poetry of the sixteenth century: authors such as Spenser, Wyatt, Marlowe, More, Sidney, and Bacon.</td>
</tr>
<tr>
<td>410</td>
<td>Milton, Donne, and their Contemporaries</td>
<td>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, Waits).</td>
</tr>
<tr>
<td>411</td>
<td>Literature of the Restoration and Early Eighteenth Century: Dryden to Pope</td>
<td>Survey of English literature and culture from 1660 to 1745.</td>
</tr>
<tr>
<td>412</td>
<td>Literature of the Later Eighteenth Century: Johnson to Burns</td>
<td>Survey of English literature and culture from 1745 to 1800.</td>
</tr>
<tr>
<td>413</td>
<td>Restoration and Eighteenth-Century Genres and Modes</td>
<td>Study of one major genre or literary mode such as drama, novel, poetry, nonfiction, prose, satire, romance, or epic written between 1660 and 1800. May be repeated for credit.</td>
</tr>
<tr>
<td>414</td>
<td>Romantic Poetry and Prose I</td>
<td>Emphasis on Wordsworth, Coleridge, and Blake, with readings from Lamb, De Quincey, and other prose writers.</td>
</tr>
<tr>
<td>415</td>
<td>Victorian Poetry and Prose II</td>
<td>Emphasis on Keats, Tennyson, and the Brownings; prose by Carlyle, Newman, and Mill.</td>
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<tr>
<td>420</td>
<td>The Nineteenth-Century British Novel</td>
<td>Major novels from Scott to Hardy.</td>
</tr>
<tr>
<td>421</td>
<td>Modern British Novel</td>
<td>Authors such as Joyce and Woolf through contemporary British fiction writers.</td>
</tr>
<tr>
<td>422</td>
<td>Women Writers in Britain</td>
<td>Emphasis on the literary consciousness and works of women writers in Britain. Course content will vary. Authors covered may include Maud Gonne, Margaret Kerne, Amilcar Valley, Elizabeth Cary, Aphra Behn, Frances Burney, Mary Wollstonecraft, Mary Shelley, George Elliot, Virginia Woolf, Doris Lessing. May be repeated for credit.</td>
</tr>
<tr>
<td>423</td>
<td>Colonial, Federal, and Early National American Literature</td>
<td>Colonial, Federal, and early national American literature from Columbus to Washington Irving.</td>
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<tr>
<td>424</td>
<td>American Romanticism and Transcendentalism</td>
<td>Study of literature written after World War II. Content will vary. May be repeated once with permission of instructor.</td>
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<td>425</td>
<td>American Realism and Naturalism</td>
<td>Study of literature from the time of the Civil War to World War II, including such writers as Twain, Howells, James, Whitman, and Dickinson.</td>
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<td>Modern American Literature</td>
<td>Study of literature written after World War II. Content will vary. May be repeated once with permission of instructor.</td>
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<td>427</td>
<td>American Modern Drama</td>
<td>Study of literature written after World War II. Content will vary. May be repeated once with permission of instructor.</td>
</tr>
<tr>
<td>428</td>
<td>Persuasive Writing</td>
<td>Focus on writing and analyzing persuasive texts in public, private, and academic contexts.</td>
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<td>429</td>
<td>Advanced Poetry Writing</td>
<td>Development of skills acquired in basic Writing Poetry course.</td>
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<tr>
<td>430</td>
<td>Advanced Fiction Writing</td>
<td>Development of skills acquired in basic Writing Fiction course.</td>
</tr>
<tr>
<td>431</td>
<td>Writing, Layout, and Production of Technical Documents</td>
<td>Principles of design for desktop publishing. Production of various documents to be incorporated into a professional portfolio. Prereq: 360 or consent of instructor.</td>
</tr>
<tr>
<td>432</td>
<td>Special Topics in Rhetoric</td>
<td>Topics vary. May be repeated with consent of department. Maximum 6 hours.</td>
</tr>
<tr>
<td>433</td>
<td>Contemporary/Postmodern Literature</td>
<td>Special Topics in Rhetoric. Topics vary. May be repeated with consent of department. Maximum 6 hours.</td>
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<td>Study of literature written after World War II. Content will vary. May be repeated once with permission of instructor.</td>
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<tr>
<td>441</td>
<td>Southern Literature</td>
<td>Study of this period, including frontier humorists, local color writers, and southern literary renaissance.</td>
</tr>
<tr>
<td>442</td>
<td>American Humor</td>
<td>Development of American humor from the early nineteenth century into the twentieth century, with particular emphasis on Mark Twain. (Same as American Studies 442.)</td>
</tr>
</tbody>
</table>

Courses of Instruction

167
ENGLISH EDUCATION (340)

141 Efficient Reading and Study Skills (3) Improvement of reading comprehension and rate, intensive vocabulary enrichment, study skills as they relate to content area subjects. Satisfactory/No Credit grading only. Prereq: 303.

142 Adolescent Literature (3) Literature written or appropriate to adolescence.

143 Teaching Speech and Drama, Grades 7-12 (3) Themes, techniques, materials, and evaluation for teaching speech and drama in secondary schools. Prereq: Certification in Speech. Prereq: Admission to Teacher Education Program. F

149 Teaching English in the Secondary School (3) Techniques of teaching composition, language, and literature. Prereq: Admission to Teacher Education Program.

150 Teaching Reading and Literature in the Secondary School (3) Teaching basic reading skills and literature. Sp

151 Developing Reading Skills in Content Fields (3) Teaching reading and study skills in content areas of the school program. Extensive assessment of textbooks. Emphasis on middle school and high school classes. Sp, Su

153 Independent Study (1-3) Topics to be assigned. May be repeated. Maximum 12 hours.

493 Special Topics in Language (3) Topics vary. May be repeated. Maximum 6 hours.

194 Special Topics in Writing (3) Basic writing integrated with reading, usually taught by a professional writer. Topics vary. May be repeated. Maximum 6 hours.

195 Special Topics in Film (3) Particular directors, film genres, national cinema movements, or other topics. May be repeated with consent of department. Maximum 6 hours.

196 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.

199 Special Topics in Film (3) Content varies. Particular directors, film genres, national cinema movements, or other topics. May be repeated with consent of department. Maximum 6 hours. (Same as Cinema Studies 499.)

200 Language and Law (3) Language in the Anglo-American legal process: focus on differences between spoken and written law, normal dialect and literary address, and oral and written discourse. Emphasis on legal and linguistic analysis. Prereq: 371 or 372 or consent of instructor. (Same as Linguistics 400.)

201 Foreign Study (1-15) Studying and traveling abroad. May be repeated. May be taken for 1-15 credits. Prereq: 201.

202 Off-Campus Study (1-15) Seeing, studying, and writing about drama as performed in New York City. May be repeated. May be taken for 1-15 credits. Prereq: 202.

203 Independent Study (1-3) Topic to be assigned. May be repeated. Maximum 12 hours.

204 Honors Research Project (3-6) Senior honors project done under the supervision of a faculty mentor. Project should be approved with at least two semesters of study remaining. Prereq: Senior standing.

205 Directed Independent Studies (1-3) Independent study in a specialized area with consent of instructor, Exercise Science majors, minimum cumulative 2.5 GPA. Satisfactory/No Credit grading only. Prereq: Progression to the major and consent of instructor.

206 Exercise Physiology/Fitness Internship (12-15) Full-time practicum in exercise/fitness at approved agencies. Satisfactory/No Credit grading only. Prereq: 414, 442, 426, 460, progression to major, and consent of instructor.

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

208 Research Project (1-6) Senior research project. Under supervision of a faculty mentor. Project should be approved with two semesters of study remaining. Prereq: Senior standing.

FINANCE (349)

Accounting 201-202, Economics 201, Finance 301, and Statistics 201 are prerequisites to all 400-level Finance courses.

201 Personal Finance (3) Financial planning, investing, managing assets, insurance, and retirement planning for nonservice majors. May not be used to satisfy Finance elective requirements. Offered as faculty resource allow.

202 Introduction to Real Estate (3) This course is designed to provide a detailed survey of the real estate market and its analysis. In particular, the course focuses on developing an understanding of the unique legal, institutional, and economic environment of the real estate market. In addition, the course covers real estate financing, and investment. Presentation of results. May not be used to satisfy Finance elective requirements. (Same as Urban Studies 280.)


402 Special Topics in Finance (3) Junior and senior level finance seminar. Topics to be announced prior to offering. Prereq: 301.

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 all day or overnight field trips may be required. Prereq: Forestry 311, or consent of instructors. 2 hours and 1 lab. (Same as Forestry 306.)

313 Plant Pathology (3) Introduction to the microorganisms and environmental conditions causing disease in plants. Biology of pathogens, host-pathogen interactions, disease development, and control principles. Prereq: Six hours of Biological Sciences. 2 hours and 1 lab. (Same as Botany 313.)

321 Economic Entomology (3) Structure, life history, habits and principles of control of important insect pests of farm, garden, orchard and household. Prereq: Six hours of Biological Sciences. 2 hours and 1 lab. Sp, E.

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

410 Diseases and Insects of Ornamental Plants (3) Symptoms, identification and management of diseases and insects that affect plants in the greenhouse, nursery, and landscape environments. Prereq: 313 or 321 (or consent of instructor). 4 hours. Sp, A

EXERCISE SCIENCE (347)

100 Orientation to Exercise Science (1) Overview of disciplines and professional areas for incoming Exercise Science majors. Must be taken prior to admission to the Exercise Science major.

250 Exercise Science Practicum (1) First practicum experience to support and clarify career goals. Satisfactory/No Credit grading only. Prereq: 100.

275 Fitness for Life (2) Evaluation and discussion of factors related to optimal health: cardiovascular function, muscular strength and endurance, flexibility, low back function, nutrition, and stress. Emphasis on evaluation of current status with recommendations for change. Prereq: Six hours of Physical Education. 2 hours.

322 Fitness Activities (2) Methods of instructing and leading fitness activities, including jogging, exercise to music, water activities, and fitness games. 1 hour lecture, 3 hours lab. Prereq: Exercise Science major or consent of instructor.

323 Applied Anatomy (3) Structure and roles of bones, joints and muscles in human movement and exercise-related biomechanical principles. Prereq: Junior standing.

350 Disease and Injury: Epidemiologic and Demographic Perspectives (3) Disease and injury morbidity and mortality patterns, trends, differentials and causes are examined. May not be used to satisfy the requirements of the majors in Exercise Science. Prereq: One semester of college coursework in statistics or mathematics is recommended.
FOOD SCIENCE AND TECHNOLOGY (390)

140 The Food Industry (3) Introduction to the food industry and the production of an adequate, safe food supply for national and international markets.

240 Field Observations in Food Processing (2) Introduction to observation and familiarization with processing facilities, packaging, quality control, and distribution of different types of foods. Prereq: 140; non-majors must obtain permission of instructor. 1 hour and 1 lab.

250 Evaluation and Grading of Dairy Products (2) Evaluation and scoring of milk, ice cream, cheddar cheese, cottage cheese, and other dairy products. Prereq: 140 or consent of instructor. 2.75-minute lecture/lab.

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. F

310 Food Chemistry (4) Reactions of water, proteins, lipids, carbohydrates, minerals, enzymes, vitamins, and additives in foods. Prereq: Chemistry 110 or equivalent. Coreq: Biochemistry 310. 3 hours lecture and 1 lab.

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

329 Food Microbiology Lab (3) Methods for examination, enumeration, cultivation and identification of foodborne microorganisms. Prereq: Microbiology 210. Coreq: 429 F

340 Food Preservation (3) Principles and equipment used for preservation of foods. Prereq: 140 and 240 or consent of instructor; 2 hours lecture and 1 lab.

401 Food Technology and Science Seminar (1) Individual reports and group discussion on current topics. May be repeated; maximum 3 credit hours. Prereq: Senior standing or consent of instructor.

430 Sensory Evaluation of Food (3) Principles and methods of sensory evaluation of foods. Basic statistics. 2 hours and 1 lab.

442 Special Topics in Food Science and Technology (1-3) Topics of current concern to the food industry. May be repeated. Maximum 9 hours. Prereq: Consent of instructor. Letter grade or Satisfactory/No Credit grading. S

452 Science of Dairy Foods (3) Science and technology of the processing of milk and its products. Prereq: 290, 310, 320-29, and 340 or consent of instructor. 2 hours lecture and 1 lab.

460 Meat Products Technology (3) Carcass characteristics of meat animals; muscle structure and composition; cut identification, curing, freezing and cooking. Prereq: 140 or consent of instructor.

469 Meat Science Lab (1) Slaughter and processing methods for beef, pork, lamb and poultry. Coreq: 460. 1 lab.

470 Food Crop Products (3) Food products from plants emphasizing types, manufacturing systems, quality attributes and utility. Prereq: 340, and 3 hours biological science or consent of instructor; 2 hours and 1 lab. A, S

480 Cereal Science and Bakery Products (3) Chemistry and technology in processing cereal grains; interactions of ingredients during production and storage of baked products. Prereq: 290, 310 and 340 or consent of instructor. 2 hours and 1 lab. A, Sp

490 Food Laws and Regulations (3) A comprehensive examination of the laws and regulations designed to protect the safety, wholesomeness, and nutritional quality of the United States food supply with in-depth analysis and discussion of the effect of these laws on two different food products. Prereq: Consent of instructor. 2 hours and 1 lab. A, Sp

390 Food Processing System Analysis and Evaluation (3) Design and evaluation of a food processing operation to produce a safe and acceptable quality food product. Prereq: 310, 320, and 340 or consent of instructor.

FOREIGN LANGUAGE/ESL EDUCATION (394)


305 Food Protection (3) (Same as Entomology and Plant Pathology 306.) Sp

321 Wildland 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. Prereq: English 102 and Speech 210 or 240 or consent of instructor. F

322 Silvicultural Practices (3) Application of silvicultural techniques; tree improvement; use of herbicides; forest management. Prereq: FWF 312. Coreq. 305, 306, 322, 324, 326, 328, 330, 335. Sp

323 People and Forest Practices (2) Examination of how people, institutions and society at large affect and are affected by forest management practices. Case studies and field applications will concentrate on the wide variety of linkages that exist in society among people and forests. Application of basic skills of collaborative problem solving will be emphasized. Overnight field trips required. Letter grade only. Coreq: 305, 306, 322, 324, 326, 328, 330. 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: Agriculture and Natural Resources 290 and Economics 201. Coreq. 305, 306, 322, 323, 324, 326, 328, 330, 335. Sp

325 Land Management Techniques (2) Surveying techniques; road layout and construction as applied to forestry; timber harvest techniques. Prereq: FWF 313. Coreq. 305, 306, 322, 323, 324, 326, 329, 330. Sp

327 Forest Resource Inventory (3) Tree, log and lumber scaling and grading; land inventory and stand mapping; volume estimation. Prereq: FWF 313, Coreq. 305, 306, 322, 323, 324, 326, 330, 335. Sp


331 Wood Properties and Uses (2) Wood as a biological material; detailed examination of the woody cell wall; influence of environmental and site conditions on wood formation; physical and mechanical properties of wood and the relationship of the woody cell wall to these properties; wood use in important commercial products; day field trip may be required. Prereq: Botany 110 or consent of instructor. Coreq. 330, 332 and 331 for Forestry majors. Sp

332 Wood Identification (1) Cell structure and arrangement as a tool for species identification; microscopic and hand lens identification of important commercial hardwoods, hardwoods and foreign woods; laboratory procedures for making thin sections for microscopic examination; student use of reference collection of wood samples; day field trip may be required. Prereq: Forestry, Wildlife and Conservation Science majors. Coreq: 331 or 332 for Forestry majors. Sp
FORESTRY, WILDLIFE AND FISHERIES (398)

100 Current Issues in Renewable Natural Resources (1) Current issues of renewable natural resources. Required. Graded pass/fail. Credit toward major only, if approved by the forestry department. 1 hour lecture/1 hour laboratory. F

211 Introduction to Forestry, Wildlife and Fisheries (3) History of wildlife and fisheries management. Ecological principles, current policies, social trends, and forest and wildlife resource use. 3 hours. F

250 Conservation (3) Use and abuse of wildlife resources. Historical perspectives and current management of forests, wildlife, fish of North America including aspects of outdoor recreation and pollution problems. 3 hours. F

311 Dendrology and Silvics of North American Trees (3) Identification, classification and nomenclature of important North American coniferous and deciduous forest associations; silvical characteristics of trees and stands as the basic for the practice of silviculture. Daylong field trips may be required. Prereq: 1 year of Botany or Biology. 2 hours and 1 lab. F

312 Principles of Silviculture (3) Principles for treating forest stands to achieve selected objectives. Prereq: Chemistry 311, and (for Forestry majors) 313. 2 hours and 1 lab. F

313 Measurements and Sampling (2) Measurement techniques and sampling methods for vegetation; estimation of animal populations; and aerial photo use. Prereq: Statistics 201, Agriculture and Natural Resources 290, Mathematics 125. Coreq: FW 312. 1 hour and 1 lab. F

317 Principles of Wildlife and Fisheries Management (3) Ecological relationships of wild animals with other animals and their habitats. Biological, social and economic aspects of their management. Prereq: 211 or 250, Statistics 201, Agriculture 240, Mathematics 125, Chemistry 100 and Biology 230. 3 hours. F

320 Wildlife Habitat Evaluation and Management (3) Ecological relationships between wildlife and their habitat. Evaluation, modeling, and management of wildlife habitat. Effects of land-use practices on wildlife habitat. Field weekend trips may be required. Prereq: 331 and 332, or consent of instructor. 1 hour lecture and 2 hour lab. Sp

344 Wood Adhesives and Glued Wood Products (2) Theory and practice of adhesive bonding; study of the wood substrate-adhesive interface for bonding; principles of adhesion; wood adhesives; gluing of solid wood and commonly-used man-made wood products; laboratory manufacture and testing of adhesives; adhesive bond strength and glued-wood product performance; day field trips may be required. Prereq: 331 and 332, or consent of instructor. 1 hour lecture and 2 lab. F

420 International Natural Resource Issues (2) Identification and analyses of issues regarding forestry, wildlife, fisheries, and associated natural resources. International and cultural aspects of resource management. Prereq: 320, or 321, or consent of instructor. 1 hour lecture and 2 labs. Sp

423 Wildland Recreation Planning and Management (3) Planning processes, master and site planning, design projects; management strategies, methods of visitor and recreation site management; case studies; Weekend field trips may be required. Prereq: 321 and Junior standing in Wildland Recreation concentration, or consent of instructor. 1.5 hours and 1 lab. Sp

434 Wood Processing and Machining (2) Processing of wood into primary log breakdown and secondary processing into major products. Fundamentals of machining technology and equipment. A variety of cutting operations including sawing, boring, planing, veneer cutting, and laser machining; day field trip may be required. Prereq: 331 and 332, or consent of instructor. 1 hour lecture and 2 lab. F

440 Ivory Drying and Preservation (2) Discussion of wood/moisture relationships. Introduction to commercial wood drying equipment and practices. Proper use, specification, and disposal of preservative-treated wood. Day field trips may be required. Prereq: 331 and 332, or consent of instructor. F

486 Internship in Forestry (1-6) Supervised experience at department-approved employment locations. Prereq: Junior standing. Satisfactory/No credit only. E

492 Practicum in Forestry (1-8) Supervised experience at department-approved employment locations. Prereq: Senior standing. Satisfactory/No credit only. E

493 Independent Study in Forestry (1-15) Special electives, supervised research or individual problems in forestry. Letter grade or Satisfactory/No Credit. E

494 Internship in Wildland Recreation (1-6) May be repeated. May be supervised field experience guided by specific learning objectives approved by the instructor and the field supervisor. The student is responsible for field placement. One credit per two weeks of full-time supervised field experience maximum. Prereq: Junior standing, consent of instructor. E

496 Internship in Fisheries (1-6) Supervised experience at department-approved, employment location arranged by the student. Internship learning objectives must be approved by the advisor/instructor and the field supervisor. Daily log, supervisor evaluations, and final report required. One credit per two weeks of full-time supervised field experience maximum. Prereq: Junior standing, consent of instructor. May be repeated. Maximum 60 credits.

FRENCH (405)

111-112 Elementary French (3,3) Language laboratory required. Must be taken in sequence. Not available to students eligible for French 150. E

150 Intermediate French Transition (3) Prereq: Two years of high school French and a placement score below the level required for admissability to French 211. Since 1950 is a review of elementary French, students who receive credit in this course may not receive credit for any other elementary French course and therefore also forfeit the six hours of elementary language credit awarded through placement examination. For elective credit only. F

199 French Language and World Business (2) The course examines the importance of foreign trade at the local, state, and national levels. An interdisciplinary team of faculty from the colleges of Business and Arts and Sciences will provide an overview of the cultural, language, and international business awareness in world business. Restricted to students majoring in the Language and World Business concentrations. See the Director for further information. F

211-212 Intermediate French (3,3) Prereq: 150 or 112 or Departmental Placement Exam. Must be taken in sequence. Students who place in 200 level courses from high school will receive six hours of elementary French credit. E

217-218 Honors: Intermediate French (3,3) For students of superior ability in French. Incoming freshmen admitted on basis of diagnostic test, high school averages, and performance at the University; maximum of 15 for individual attention. Students follow enriched program with emphasis on speaking ability and reading understanding literature. Credit with a grade of A in 211 may enter 218 with permission of instructor. Credit for 300 given to students receiving a grade of A or B in the course. F, Sp

300 Transitional Grammar Review and Reading (3) For students who have completed the intermediate level sequence and who need additional preparation in reading comprehension, vocabulary acquisition, and key areas of grammar. Prereq: French 212 or equivalent. Satisfactory/No Credit or appropriate score on French placement test. Not to 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 paper division students desiring reading knowledge of the language. Undergraduate credit only. Not for credit for those having had 111-112 or equivalent. No auditors.

333 Intermediate Composition and Grammar (3) Emphasizes writing skills. Review of major grammatical points in French. Prereq: French 212, 218, French 300 or permission of instructor.

334 Intermediate Conversation (3) Emphasizes speaking skills. Further review of French grammar. Required of all majors. Prereq: French 212, French 218, French 300 or permission of instructor.

345 French for Business (3) Contemporary French language as it applies to business transactions. Understanding and composing business letters; oral communication and elements of French culture related to good business practices. Either 334 or 345 may be applied toward the major but not both. Prereq: 333 or consent of instructor.

351-352 History of French Literature (3,3) Chronological survey of the history of French literature. Prereq: French 212, 218, or equivalent. Credit toward the specific historical developments that have influenced it. Prereq: 212, 218 or equivalent.

400-401 Consecutive and Simultaneous French-English (3,3) Coreq: Co-Consecutive Translation to and from English. Introduction to simultaneous translation to English. 401-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, etc. Prereq: 334, 345 or equivalent. Preferably taken in sequence.

410 Medieval French Literature (3) Major representative works of Medieval French Literature. Texts in modern French. Prereq: A 300 level literature course. (Same as Medieval Studies 410.)

411 French Literature of the 16th Century (3) Highights of 16th century French literature. Excerpts from Rabelais and Montaigne, readings of poems from the writers from Lyon and members of the Pleiades. Prereq: A 300 level literature course.

412 French Literature of the 17th Century (3) Major works of the Enlightenment. Prereq: A 300 level literature course.

413 French Literature of the 18th Century (3) Major works of the Enlightenment. Prereq: A 300 level literature course.


416 Survey of Francophone Literature (3) Examinations in Francophone literature outside metropolitan France, particularly Africa and Caribbean. Prereq: A 300 level literature course.

420 French Cinema (3) The French cinema from its earliest days through the New Wave directors. Prereq: A 300 level literature course. Can be applied to major. Writing-emphasis course. (Same as Cinema Studies 420.)
GEOPHYSICS (415)

101-102 World Geography (3,3) Selected topics and world regions, especially those with problems of contemporary interest, to illustrate geographic points of view, concepts, and techniques. Must be taken in sequence. Prereq: French 322 or equivalent.

108 Honors: World Geography (4) For freshmen and sophomores of superior ability interested in learning the geographical approach to important world problems and trends. Open to students who have received an "A" in Geography 101. Students may not receive credit for both 102 and 108.

131-132 Geography of the Natural Environment (4,4) Characteristics and processes of the earth's surface and lower atmosphere that contribute to the production of world patterns of distinctive environments significant to humanity. Must be taken in sequence. 3 hours lecture and 2 hours lab per week. Open to students who have taken 130. Prereq: 131 is prerequisite to 132.

310 Introduction to Cartography (3) Properties, sources, uses, design and production of maps as tools for geographical analysis. Introduction to desktop mapping techniques and data display using basic thematic map styles. 2 hours lecture and 2 hours lab per week.

320 Cultural Geography: Core Concepts (3) Back- ground and methods of cultural geography; basic concepts and theories focusing on cultural landscape, culture regions, cultural ecology, innovation and diffusion, cultural integration, and world patterns of cultural phenomena.

323 Behavioral Geography (3) Types of human behavior, such as hunting, territoriality, commuting, residential mobility, and cultural 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.

340 Economic Geography: Core Concepts (3) Concepts, theories, and practices in economic geography. Read and theoretical topics in agriculture, manufacturing, and services, as well.

345 Population and Environment (3) Global and local patterns of population distribution and change as they relate to culture, economic development, technology, and the environment. Prereq: 101-102 or consent of instructor. Writing-emphasis course.

361 Regional Geography of the United States and Canada (3) Physical, economic, and social distributions as they interrelate to the cultural character of regions of the United States and Canada. Writing-emphasis course.

363 Geography of the American South (3) Geographical appraisal of the southeastern United States, including physical setting, historical development, and contemporary cultural and social patterns as they are interrelated to the cultural character of the region. Prereq: 101-102 or consent of instructor. Writing-emphasis course.

365 Geography of Appalachia (3) Interrelation of physical, economic, and social patterns that give distinctive character to the region and its parts, especially in southern Appalachia, in perspective in the current American scene. Writing-emphasis course.

367 Geography of Europe (3) Physical, cultural, and economic characteristics of Europe. Emphasis on the geographical dimensions of change in contemporary Europe. Writing-emphasis course.

372 Geography of Middle America (3) Physical, cultural, and economic characteristics of Mexico, Central America, and the West Indies. (Same as Latin American Studies 372.) Writing-emphasis course.

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.

375 Geography of Russia and the Commonwealth of Independent States (3) Geographical appraisal of Russia and the other successor states to the Soviet Union. Focus on how political, economic, and social factors and patterns, and human resources influence the region's future. Writing-emphasis course. (Same as Russian and East European Studies 375.)

395 Plant Geography of North America (3) Characteristics and distribution of major plant communities of Canada, Mexico, and Central America. Relation- ships to climate, soil, topography, and climate. Long-term history and future prospects. Prereq: 131-132 or course work in botany or consent of instructor.
441 Urban Geography of the United States (3) Concepts and methods concerning development and significance of systems of cities and urban morphology of cities in the United States. Prereq: 101-102 or 340 or consent of instructor. (Same as Urban Studies 441.) Writing intensive.

443 Rural Geography of the United States (3) Geographical appraisal of rural areas of the United States, including small towns and urban fringes. Problems and potentials of rural, suburban, and exurban areas. Prereq: 101-102 or 340 or consent of instructor. Writing intensive.

445 Geography of Resources (3) Factors related to variations in resource availability from time to time and place to place, with particular emphasis upon energy and nonferrous minerals. Prereq: 101-102 or 340 or consent of instructor.

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

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

466 Teaching and Learning Geography (3) Preparing prospective teachers in the content, skills, strategies, and understandings needed for the effective teaching and assessment of geography in the K-12 school. Course organization and content based largely on the national Geography Standards.

490 Internship (3) Career-related experience with businesses, nonprofit organizations, or government majors. Prereq: Prior written permission of geography department head or appointed internship director. May be repeated. Maximum 6 hours. Satisfactory/No Credit.

491 Foreign Study (1-15) Prereq: Written consent of department required prior to registration. SNC or letter grade.

492 Off-Campus Study (1-15) Prereq: Written consent of department required prior to registration. SNC or letter grade.

493 Independent Study (1-15) Prereq: Written consent of department required prior to registration. SNC or letter grade.

494 Undergraduate Research Experience (1-3) Supervised participation in independent research projects. Prereq: Consent of department head. May be repeated; maximum 6 hrs. SNC grading.

497 Honors: Senior Thesis (3) Students develop an undergraduate thesis under the guidance of a faculty advisor. Prereq: Open to second semester seniors and first semester seniors who have a 3.2 or better overall GPA and permission of the thesis advisor.


499 Proseminar in Geography (3) Major themes in geography, especially trends over the past 40 years. Required for majors. Not open to graduate students. Prereq: Senior standing. May be repeated to a maximum of 9 hours. 3 lecture hours.

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

410 Principles of Geochemistry (3) Application of chemical principles to geologic problems. Emphasis on crystal chemistry and relation between basic atomic structure and distribution and behavior of elements in the Earth's crust. Prereq: Chemistry 120-130; recommend Geology 330. 2 lecture hours and one 2-hour lab. Prereq: 101-102. (Same as Geology 450.)

460 Principles of Geochemistry (3) Application of chemical principles to geologic problems. Emphasis on crystal chemistry and relation between basic atomic structure and distribution and behavior of elements in the Earth's crust. Prereq: Chemistry 120-130; recommend Geology 330. 2 lecture hours and one 2-hour lab. Prereq: 101-102. (Same as Geology 450.)

475 Physical and Chemical Systems of the Earth (3) Development of the physical earth from the solar nebula to the present. Formation, composition, and evolution of the hydrosphere, crust, mantle, and core. Interdependence of earthquakes, volcanism, plate tectonics, geochemistry, chemical and isotopic processes of the interior, and the earth's temperature. Historical perspective on major changes in the past, and problems unresolved today. Writing emphasis course. Prereq: 101. 3 lecture hours.

485 Principles of Hydrogeology (3) Physical principles of flow, hydraulic, geologic controls, aquifers and artesian flow, water well design and history, transport processes. Prereq: 101, Math 141 and 142, Physics 133 or 134 or equivalent, or consent of instructor. (Same as Civil Engineering 485.)

486 Hydrogeology Laboratory (1) Application and demonstration of hydrogeological principles in the field and laboratory. Prereq or Coreq: Geology 485, or consent of instructor.

490 Field Geology (5) Summer field course for advanced undergraduate geology majors and first-year graduate students in geology. Taught off-campus and requires the full time of the student. The course provides a synthesis of the major aspects of the geological sciences in a societal context. Field techniques demonstrated and practiced, and applied to the solution of geological problems. Credit cannot be applied to the core courses (310, 320, 330, 340, 370) and consent of instructor.

450 Process Geomorphology (3) Integrative approach to the study of the surface of the Earth based upon case histories, mapping, field work, analysis, and interpretation. Prereq: 101-102 and 107. 2 lecture hours and one 2-hour lab. Prereq: 101-102. (Same as Geography 450.)


460 Principles of Geochemistry (3) Application of chemical principles to geologic problems. Emphasis on crystal chemistry and relation between basic atomic structure and distribution and behavior of elements in the Earth's crust. Prereq: Chemistry 120-130; recommend Geology 330. 2 lecture hours and one 2-hour lab. Prereq: 101-102. (Same as Geology 450.)

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450 Process Geomorphology (3) Integrative approach to the study of the surface of the Earth based upon case histories, mapping, field work, analysis, and interpretation. Prereq: 101-102 and 107. 2 lecture hours and one 2-hour lab. Prereq: 101-102. (Same as Geography 450.)
GERMAN (433)

101-102 Elementary German (3,3) Language laboratory required. Must be taken in sequence. Not available to students eligible for German 150.
111 Language Laboratory (0)
112 Language Laboratory (0)
150 Elementary German Transition (3) This course is designed to prepare students for enrollment in German 201. Prereq: Two years of high school German and a placement score below the level required for admittance to German 201. A review of elementary German, students who receive credit in this course may not also receive credit for any other 100 level German course and therefore also forfeit the six hours of elementary German credit awarded through placement examination.
199 German Language and World Business (2) The course will examine the importance of foreign trade at the local, state, and national level. An interdisciplinary team of faculty from the Colleges of Business Administration and Arts and Sciences will provide an overview of the value of language study and international cultural awareness to the business student. Restricted to students majoring in the Language and World Business major concentration. See the Director for further information.
201-202 Intermediate German (3,3) Must be taken in sequence. Prereq: 102 or 150 or appropriate placement exam score.
215 German, Special Topics (3) If content varies, may be repeated for credit. Maximum 6 hours.
301-302 Introduction to German Literature (3,3) Prereq: 202 or equivalent. Need not be taken in sequence.
305 Readings in German (3) Topics in both literary and nonliterary fields. Students or student groups are encouraged to suggest topics for future courses. May be repeated twice with approval of department. Prereq: 202 or equivalent.
311-312 Conversation and Composition (3,3) Prereq: 202 or equivalent.
323 German Film (3) A study of the German cinema from the earliest days to the present. Writing-emphasis course. (Same as Cinema Studies 323.)
331-332 Elements of German for Upper-Division and Graduate Students (3,3) Elements of language, elementary and advanced readings and a final 10,000 word translation. Includes students preparing for language examination, and upperdivision students desiring reading knowledge of the language. Undergraduates, only. No credit for students who have completed 101-102. 332 may be repeated only once for credit. A, B, C, no credit grading.
350 German-Jewish Topics in Literature and Culture (3) Selected themes, issues, figures, movements, and problems in the German-Jewish relationship as reflected in literature and culture from the 1750s to the present. Variable content. Available for both majors and non-majors. May be repeated with the approval of the department. Maximum 6 hours. (Same as Judaic Studies 350.) Primary department is German.
363 Modern German Culture (3) German culture from the middle of the nineteenth century to the present: customs, art, music, literature, society, class. Reading in English for non-majors and in German for majors. Major credit, but no foreign language credit. A writing-emphasis course. Fulfills Upper-level Distribution Requirement for Foreign Studies for those who have not satisfied the history requirement with Western Civilization. Writing-emphasis course.
411-412 Advanced Conversation and Composition (3,3) Prereq: 311-312 or equivalent or consent of department.
415 German, Special Topics (3) If content varies, may be repeated for credit. Maximum 6 hours.
420 Selected Topics in German Literature from 1750 to the Present (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.
421 German Lyric Poetry (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.
422 German Drama (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.
423 German Narrative Prose (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.
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 functional assumptions about language change through time. Non-phonological linguistic 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.)
435 Structure of the German Language (3) Contrasts 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 435.)
436 History of the German Language (3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German to New High German. Internal and external linguistic history of German speech. Prereq: 6 hours of upper-division German language courses excluding courses in translation and 331 or 332. (Same as Linguistics 436.)
477-478 German Honors (1,1) Preparation of honors paper portfolio and oral presentation. Prereq: Permission of the department.
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 331 or 332.
490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For Language and World Business major concentration. See the Director for further information. Prereq: 490 Internship (1-15).
430 Suicide and Crisis Intervention (3) Factors which make suicide a serious health problem. Assessment, intervention, and prevention techniques. 

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

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 officials, social workers, and other paramedical personnel. Lectures, demonstrations, films, field trips, and supervised research in special health/wellness or health promotion issues. May be repeated. Maximum 12 hours.

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

483 Field Practice (12) Off-campus internship or field practice in an educational or other agency with qualified professional. Prereq: Progression and approval for internship. Satisfaction/No Credit only. Usually taken in final semester. E

HEBREW (458)

141-142 Elementary Modern Hebrew I, II (4,4) (Same as Asian Studies 141-142)

241-242 Intermediate Modern Hebrew I, II (4,4) (Same as Asian Studies 241-242)

HISTORY (462)

221-222 History of the United States (3,3) 221-Settlement to 1877. 222-1877 to present. E

227-228 Honors: History of the United States (3,3) Consent of department required. Students will attend the appropriate 221-222 lectures and the designated honors discussion section.

241-242 Development of Western Civilization (3,3) Historical survey of the civilizations of the western world.

241-Ancient world to 1715. 242-1715 to present. Writing-emphasis course.

247-248 Honors: Development of Western Civilization (3,3) Consent of department required. Writing emphasis course. Students will attend the appropriate 241-242 lectures and the designated honors discussion section.

255-256 Introduction to Latin American Studies (3,3) Societies of Latin America with special emphasis on dominant cultures, social changes, and the impact of nationalism. 


305 History of Russia (3) 305-To the middle of the 19th century. The development of Russian society and culture. 306-From the middle of the 19th century. Russian society and culture. (Same as Russian and East European Studies 305-306)

310-311 The Modern World (3,3) 310-Development of Western democracy: its successes and failures; post-World War II economics and sociology; international law. 311-Origins of the Soviet Union and its consequences: politics, industry, trade, science and technology. Writing-emphasis course.

312 Medieval Europe (3,3) 312-Early Middle Ages: 300-1100. Formation of medieval society and institutions. 313-Late 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 a transition from the Middle Ages to the modern world. Interrelationship of culture, social, economic, political, and religious developments, with an emphasis upon historical interpretation.
<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
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<tbody>
<tr>
<td>451</td>
<td>United States Military History, 1754 to the Present (3) The nation's broad strategic aims and means used to attain them, shifting strategy, tactics and weapons involved in wars, and relationship between American society and its armed forces. (Same as Military Science 450.)</td>
</tr>
<tr>
<td>452</td>
<td>The American Experience in World War II (3) Diplomacy and warfare in Europe and Asia and the impact of the war on American society.</td>
</tr>
<tr>
<td>453</td>
<td>Women in American History (3) Approaches of 432 applied to American society. Writing-emphasis course. (Same as Women's Studies 453.)</td>
</tr>
<tr>
<td>454</td>
<td>Cities and Urbanization in American History (3) Origins, growth, and influence of American cities in development of the nation, from colonial era to present. Writing-emphasis course. (Same as Urban Studies 454.)</td>
</tr>
<tr>
<td>455</td>
<td>History of Sports in the United States (3) Development of sports and their significance in American life from colonial period to present. Emphasis on social, cultural, economic and political impact of both spectator and participatory sports in 20th century. (Same as American Studies 455.)</td>
</tr>
<tr>
<td>456</td>
<td>Jefferson's America, 1789-1815 (3) Nation-building in the United States from the Constitution to the War of 1812. Economic modernization, the new national government, the first political party system, foreign relations, the changing status of women, the growth of cities, and changing ideas about deference, class, and community. Writing emphasis course.</td>
</tr>
<tr>
<td>457</td>
<td>History of Brazil (3) History of Latin America's largest nation. History of boom and bust economic cycles, slavery, colonial period, political stability, military rule, and reconcentration. Writing-emphasis course. (Same as Latin American Studies 457.)</td>
</tr>
<tr>
<td>458</td>
<td>Cuban Revolution in Historical Perspective (3) Cuban history with major emphasis on Cuban Revolution and Cuban-U.S. relations. Writing-emphasis course. (Same as Latin American Studies 458.)</td>
</tr>
<tr>
<td>459</td>
<td>History of Mexico (3) Pre-Columbian, colonial, and modern Mexican history, emphasizing the sixteenth century's first true social revolution, the Mexican Revolution, and contemporary social and economic problems. Writing-emphasis course. (Same as Latin American Studies 459.)</td>
</tr>
<tr>
<td>460</td>
<td>Modern Latin American History In Films (3) Major events and figures of Latin American history since 1492 as represented in feature films made by Latin Americans. Topics include economic development, the Cuban Revolution, and Latin American cinema. Writing-emphasis course. (Same as Latin American Studies 460.)</td>
</tr>
<tr>
<td>461</td>
<td>Studies in British History (3) Variable content. Selected themes and issues in British history. May be repeated. Maximum 9 hours.</td>
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<tr>
<td>462</td>
<td>Studies in Western European History (3) Variable content. Selected aspects of Western European history such as witchcraft, revolutions, or nationalism. May be repeated. Maximum 9 hours.</td>
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<td>463</td>
<td>Studies in European History (3) Variable content. Selected aspects of Eastern European history, especially on Russian and Polish history. May be repeated. Maximum 9 hours.</td>
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<td>Studies in Latin American History (3) Variable content. Significant issues in Latin American history. May be repeated. Maximum 9 hours. Writing-emphasis course. (Same as Latin American Studies 465.)</td>
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<tr>
<td>466</td>
<td>Studies in Asian History (3) Variable content. Particular aspects of Middle Eastern and East Asian history such as modernization in the Middle East, Revolutions in China, and Japan, and others. May be repeated. Maximum 9 hours.</td>
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<tr>
<td>468</td>
<td>Studies in History (3) Variable content. Subject matter not covered in other courses. May be repeated. Maximum 9 hours.</td>
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<td>469</td>
<td>Colloquium in History (History 3) Historical theme or special emphasis on questions and skills, with special reference to historical writing, including analysis of both primary and secondary sources. Recommended for seniors. Writing-emphasis course.</td>
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<td>470</td>
<td>History of U.S. Foreign Relations Since WW II (3) Examine the ideology and practice of U.S. international relations since World War II.</td>
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<td>472</td>
<td>Oral Histories of War and Peace (3) Oral history methodologies and interviews with veterans and others who have shaped modern American military history. Special focus on World War II, the Korean War, the Vietnam War, and the Gulf War. Writing-emphasis course.</td>
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<td>478</td>
<td>Studies in African History (3) Variable content. Selected aspects of African history such as African resistance movements, African political parties, the relationship of social and economic development under colonialism to social and economic conditions in modern African nations, and Anti-American and resistance in South Africa. May be repeated. Maximum 9 hours.</td>
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**HOTEL AND RESTAURANT ADMINISTRATION (512)**

- **Food Quality Principles (3)** Scientific principles involved with selection, preparation, evaluation and safety of quality food. 2 hours and 1 lab.
- **Introduction to the Service Industry (3)** Organizational and basic operating systems for the service sector available in the hospitality and retail industries. Management competencies necessary for success in these fields. (Same as HRA 110.)
- **Hotel Operations (3)** Operational theory of lodging and an exploration of the lodging industry in terms of nature of work, organizational structure of lodging segments, the meaning of quality service, the representation of brands, current industry issues, and evaluation of the market place. Prereq/Coreq: HRA 119/RCS 119.
- **Developing the Service Workforce (3)** Personnel management processes and policies to develop the service workforce. Topics include leadership organizational change; labor cost; employee review process; retention issues. Prereq: HRA 210 RCR 210, or RCS 211. (Same as RCS 311.)
- **Quantity Food Procurement, Production and Service (3)** Principles for determining needs, procuring, storing, producing and serving foods in volume. Prereq: 120, 220, NTR 100 or 107, NTR 101, Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 321 or 322.
- **Quantity Food Procurement, Production and Service Laboratory (3)** Application of principles in determining needs, procuring, storing, producing and serving foods in volume. Prereq: 120, 220, NTR 100 or 107, HRA 101, Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 320.
- **Diversity in the Service Marketplace (3)** Survey of diversity in the service marketplace. Implications for the manager of a diverse workforce in the delivery of goods and services to a multiplicity of consumer groups. Prereq: RCS/ HRA 311 (Same as RCS 323).
- **Tourism and Travel Administration (3)** Economic and social forces influencing domestic and international tourism; services, functions of retail, wholesale travel agencies. Prereq. Coreq: HRA 210 or HRA 211, or consent of instructor.
- **Food and Lodging Cost Control (3)** Budget, cost analysis, computer, financial statement use in decision making in lodging and foodservice systems. Prereq: HRA 210 and Accr 202 or consent of instructor.
475 Human Resources Policies, Practices, and Procedures (3) This course examines employers' organizational activities related to human resource programs, employment recruitment, employee assistance services, and legal and ethical aspects. Prereq: HRD 210 or equivalent and HRD 471.

476 Supervised Occupational Experience (3) Practical field experience in business/industry/community-based settings related to the area of study. May be repeated for a maximum of 9 credits. Prerequisites: Senior standing and approval of advisor. E.

479 Internship in Human Resource Development (3-9) Assessing, planning, implementing, and evaluating the effectiveness of training programs in an industrial setting. May be repeated for a maximum of 9 semester hours. Satisfactory/No Credit only, E.

480 Directed Study in Human Resource Development (3) Topic arranged by student in collaboration with a supervising faculty member. Approval must be filed in the departmental office. May be repeated for a maximum of 8 hours. Prereq: Junior or senior standing.

482 Directed Study in Family and Consumer Sciences Education (1-3) Preparation for teaching and managing secondary school programs in Family and Consumer Sciences.

485 Special Topics in Human Resource Development (1-3) Topics to be assigned. May be repeated.

HUMAN SERVICES (532)

220 Introduction to Human Services (3) Focus on related societal 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.

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

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

390 Information Interpretation and Assessment (3) Information gathering and assessment for human services are examined 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.

391 Prefield Seminar (2) Preparation for field experience. Exploration of fieldwork settings within human services, in particular the impact of various factors on the delivery of services. Prereq: Progression to the major, 320, 325, Coreq: 440. F, Sp.

420 Human Services Methodologies II (3) Includes reality therapy, behavioral family systems, client-centered and rational emotive therapy, discussion and role playing of methods and skills that will be used during the field experience. Prereq: Progression to the major, 220, 330. Coreq: 440. F.

430 Working Within The System (3) Capstone Experience. Context within which the need for human services arises and the process through which such services are provided. Prereq: Progression to the major, 330; senior standing or consent of instructor. Sp.

440 Human Services Field Work (6) Human Services Field Work (6) Practical field experiences within an approved and supervised human service setting. Explores day to day activities within a human services organization. Develops specific helping skills: involvement in roles and functions of human services profession; provides direct service in a supportive learning setting. For majors only. Prereq: Progression to the major, 360, 400, 420. SNC only. F, Sp, S.

441 Human Services Field Work II (6) Human Services Field Work II (6) Practical field experience within an approved and supervised human service setting in a different venue than 440 field placement. Explores day to day activities within a human service organization. Develops specific helping skills: involvement in roles and functions of human services professionals; provides direct services in a supportive learning setting. For majors only. Prereq: 440, 420, SNC only. F, Sp, S.

450 Special Topics in Human Services (3) Issues, methods, values, and trends with implications for helping practitioners, such as art therapy, legal and ethical issues, sexual awareness education. May be repeated. Maximum 9 hours.

491 Foreign Study (1-15) May be repeated.

492 Off-Campus Study (1-15) May be repeated.

493 Independent Study (1-15) May be repeated.

INFORMATION SCIENCES (560)

101 Information Foundations (3) Nature of information, sources, value, criteria, organizing principles, transfer, uses in society, issues: role of the user, copyright, preservation, national information policy, equity of information oriented careers. Undergraduate credit only.

102 Technologies for Information Retrieval (3) Principles, selection, and use of computer-based information management applications; software identification and task appropriate uses; telecommunications, utilities, and memory management systems; multiple operating systems and technology for national network communications; information services via computers. Undergraduate credit only. Sp.

310 Information Seeking: Resources and Strategies (3) Information as critical resource for research and decision making; emphasis on planning, executing, and evaluating information search. Focus on topic of student's major. Undergraduate credit only.

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.

350 Information Consumer (3) Information in society, information economy, knowledge society, publishing and information providers: hosts, bulletin boards, note: information overload/anxiety, science fraud, gatekeeping concepts; updating systems, environmental scanning; information consumption techniques. Undergraduate credit only.

330 History of the Book (3) History of writing and various methods of bookmarks.

450 Writing About Science, Technology and Medicine (3) Same as Journalism 450.

465 Introduction to Electronic Communications and Information Resources on the Internet (3) Exploration of worldwide information and communications resources, including e-mail, newsgroups, and the World Wide Web. Discussion of issues related to networking, privacy, and access.

486 Advanced Electronic Communications and Information Resources on the Internet (3) Exploration of advanced information and communications issues, resources and tools including forms, scripting, and search engines. Prereq: IS 485 or consent of instructor.

490 Information Environment (3) Generation, production, dissemination, and use of information. Roles of information in society, information seeking and user behavior, information industry, economics of information products and services, and technological and organizational change, information professions, and issues. E, Su-A.

INSTRUCTIONAL TECHNOLOGY, CURRICULUM, AND EVALUATION (577)

203 Field Study in Education (1-3) Problems of persons in active service in the field, includes methods of teaching, curriculum materials, school-community relations, and school organizations. May be repeated. Maximum 6 hours.

304 Microcomputers and Instructional Design (3) Introduction to basic operations and application of the microcomputer as related to curriculum development and instructional design. Prereq: Admission to Teacher Education Program.
231 Micro-Computers for Interior Design (3) Introduction to computer-based spreadsheets, drawing, desktop publishing software, and other software applications in various aspects of project design and management, including cost estimating and budget constraints, optimizing design criteria, project management and resource management. Three hour studio. Prereq: Math 119 or consent of instructor. Coreq: 271.

251 Materials and Resources for Interiors (2) The development and application of materials and resources used for interior architectural environments. Two hours studio. (Same as Architecture 172 or consent of instructor.)

271 Fundamentals of Interior Design I (6) Principles of spatial organization; creative problem-solving and communication techniques for micro-environmental designs; perspective drawing, modeling, experimenting with building and materials. Four hour studio. Prereq: 141, 171, Art History 172 or consent of instructor.

272 Fundamentals of Interior Design II (6) Problem solving, spatial organization of micro environments, using larger spaces; communication of total design solution graphic, audio and photographic techniques; emphasis on the use of color. Five hour studio. Prereq: 271.

311 History of Interior Architecture (4) Interior architecture, decoration and decorative arts within cultural context, contemporary through 20th century. Prereq: Art History 172 or consent of instructor. F

312 History of the Contemporary Interior Architecture (6) Historical, philosophical and practical analysis of contemporary design, in the United States and Europe. Prereq: Consent of instructor.


371 Intermediate Interior Design I (6) Studio problems of intermediate complexity; integrates and extends previous knowledge of working drawings, materials and sources. Two hour lecture and two hour studio. Prereq: 231 and consent of instructor.

372 Intermediate Interior Design II (6) Studio problems of intermediate complexity with emphasis on programming and schematic design in the 1970s; in-depth analysis of current programming methods; integrates and extends previous knowledge of spatial organization and planning of micro and macro environments. Five hour studio. Prereq: 371, 231.

400 Proxemics (2) Analysis of space and behavior; within a cultural context. Application to design and the design process. Examination of historical foundations and concepts from environment and behavior. Prereq: Consent of instructor.

410 Italian Theatre (3) Survey of Italian theatre from Renaissance to present. Prereq: 212 or consent of instructor.

417 Honors: Interior Design (1-4) Advanced research in interior design problems. One hour lecture and two hour studio. Prereq: 471 or consent of instructor.

418 Proxemics (2) Analysis of space and behavior; within a cultural context. Application to design and the design process. Examination of historical foundations and concepts from environment and behavior. Prereq: Consent of instructor.

420 Practicum for Interior Design (3) Supervised experience in a professional firm or business. Project management and design philosophy. Prereq: 360, 372 and consent of instructor.

431 Computer-Aided Design (3) Introduction to computer-aided design process, database, spreadsheet software, and other software applications in various aspects of project design and management, including cost estimating and budget constraints, optimizing design criteria, project management and resource management. Three hour studio. Prereq: Math 119 or consent of instructor. Coreq: 271.

432 Intermediate Interior Design (6) Comprehensive problem statements of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. Four hour studio. Prereq: 372, 420. Coreq: 400, or consent of the instructor.

472 Advanced Interior Design I (6) Comprehensive studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. Six hour studio. Prereq: 471 or consent of instructor.

480 Furniture Design (4) Furniture design principles applied to design of body support, task support, storage and systems. Prereq: Consent of instructor. Three hour lecture and one hour studio. Prereq: 272 or consent of instructor.

484 Needs Assessment and Design Programming (3) Systematic methodology and interdisciplinary research methods as a part of design problem solving experience. Prereq: Consent of instructor.

491 International Study (1-15) Individual or group study abroad in a foreign country. Prereq: Consent of instructor.

493 Directed Studies in Interior Design I (1-15) Student initiated research or studio investigation of special topic. Prereq: Consent of instructor. Prereq: Consent of instructor.

494 Directed Studies in Environmental Design I (1-3) Independent research in environmental design. Prereq: Consent of instructor.
414 Italian Cultural Studies (3) This course will examine Italian culture as a set of practices characteristic of Italian society, from its mode of material production to its eating habits, dress codes, celebrations, and rituals. The primary objective of the course is to achieve a greater understanding of contemporary Italian culture.

421 Topics in Italian Literature and Cinema (3) Examination of Italian literature and cinema from 1930 to the present focusing on literary works translated into English and adapted into film. Objectives of the course are to investigate the relationship between literature and cinema and to achieve a greater understanding of Italian culture since 1930. Films will be shown in Italian with English subtitles. May be repeated. Maximum of 6 hours. (Same as Cinema Studies 421.)

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For Language and World Business majors only. Satisfactory/No Credit only.

481 Foreign Study (1-15)

JAPANESE (589)

151-152 Elementary Japanese I & II (5,5) (Same as Asian Languages 151-152.)

251-252 Intermediate Japanese I & II (5,5) (Same as Asian Languages 251-252.)

313-314 Japanese Literature in English Translation (3,3) (Same as Asian Languages 313-314.)

351-352 Advanced Japanese I & II (4,4) (Same as Asian Languages 351-352.)

451 Readings in Japanese Literature (3) (Same as Asian Languages 451.)

JOURNALISM (594)

200 News Writing (3) Writing for print and electronic media under deadline. Gathering information by using records, documents, observation and interviewing. Emphasis on library resources and current events. Basic style and editing based on AP Stylebook & Leland Manual. Prereq: English 102, Communications 100 and typing proficiency.


202 Editing (3) Methods and practice in judging news, editing copy, writing headlines and designing newspapers and magazines. Emphasis on proper word use and news use. Prereq: 200, E.

280 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 production publication design. Lecture and laboratory. Prereq: 200 or 201, or consent of instructor.

290 Photojournalism (3) Principles and practice of photography as a creative tool of communication. Basic camera technique, darkroom work and 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 writing short in-class pieces as assigned. Prereq: typing proficiency.


403 International Communications (3) Development and operations of world mass communications channels and agencies. Comparative analysis of media, media practices, flow of news throughout the world. Print and broadcast systems studies in terms of relevant social, political, economic, and cultural factors. Relation of communication practices to international affairs and understanding.

412 Opinion Writing (3) Analysis of editorial positions, practices, and pages. Writing editorials and columns for newspapers, magazines, and company publications, with emphasis upon use and study 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.


433 Advanced Editing (3) Primary focus is on sensitivity to language and editing skills. Includes headline writing, layout and production. Prereq: 203.

444 Journalism as Literature (3) Study of writers from the 17th century to the modern era whose works have endured as both journalism and literature. An emerging genre called literary journalism will be examined as a means of cultural reporting with a personal narrative style. Prereq: Consent of instructor.

450 Writing about Science, Technology, and Medicine (3) Writing workshop to analyze examples of successful science writing and write series of articles for general public based on scientific journals, conferences, technical meetings and interviews. Prereq: Consent of instructor. (Same as Information Sciences 450.)

451 Environmental Reporting (3) Writing for news media on such environmental issues as strip-mining, water pollution, toxic waste, nuclear power, fossil fuel power, and solid wastes. Students hear presentations from and interview experts in environmental science, government and industry. Exemplary popular literature in environmental reporting is reviewed. Prereq: 203 for majors; consent of instructor for non-majors.

455 Issues in Science Communications (3) May be repeated. Topics vary. Prereq: Consent of instructor.

456 Science Writing as Literature (3) Survey of important science writing for the general public, including the spectrum of science, engineering, and medicine. Works by authors such as Arthur C. Clarke, Stephen J. Gould, and Richard Dawkins will be analyzed by literary qualities in a quest to understand why some science writing succeeds. Prereq: Consent of instructor.


491 Foreign Study (1-15) Advance approval of hours and topics by advisor required for registration. May be repeated for maximum of 15 hours credit.

492 Field Experience (1-3) Approved internships and other supervised practice in journalism. May be repeated for a maximum of 4 credit hours. Prereq: 360, senior standing, and consent of instructor. Satisfactory/No Credit grading only. E

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

JUDAIC STUDIES (595)

311 Ancient Hebraic Religious Traditions (3) Writing emphasis course. (Same as Religious Studies 311.)

312 Religious Aspects of Biblical and Classical Literature (3) Writing emphasis course. (Same as Religious Studies 312.)

320 Women and Religion (3) (Same as Religious Studies 320 and Women's Studies 320.)

322 Medieval Philosophy (3) Writing emphasis course. (Same as Philosophy 322 and Medieval Studies 322.)

350 German-Jewish Topics in Literature and Culture (3) May be repeated. Maximum 5 hours. (Same as German 350.)

369 History of the Middle East (3) Writing emphasis course. (Same as History 369.)

370 History of the Middle East (3) Writing emphasis course. (Same as History 370.)

381 Introduction to Judaism (3) Writing emphasis course. (Same as Religious Studies 381.)

385 Contemporary Jewish Thinkers (3,3) Writing emphasis. May be repeated. Maximum 6 credit hours. (Same as Religious Studies 385.)

386 Voices of the Holocaust (3) (Same as Religious Studies 386.)

393 The Crusades and the Medieval Christian-Muslim Relations (3) (Same as History 393)

405 Modern Jewish Thought (3) Writing emphasis course. (Same as Religious Studies 405.)

425 Early Christian and Byzantine Art, to 1350 (3) Writing-emphasis course, (Same as Art History 425 and Medieval Studies 371.)

431 Medieval Art of the West, 800-1400 (3) Writing-emphasis course. (Same as Art History 431 and Medieval Studies 381.)

LATIN (257)

111-112 Beginning Latin (3,3) Must be taken in sequence. Not available to students eligible for Latin 150.

150 Latin Transition (3) This course is designed to prepare students for enrollment in Latin 251. Prereq: Two years of high school Latin and a score on the Latin placement exam below that required for admission to Latin 251. Since 150 is a review of elementary Latin, students who receive credit in this course may not also receive credit for any other level Latin course and therefore also forfeit the six hours of elementary language credit awarded through placement examination.

251 Intermediate Latin: Grammar and Readings (3) Prereq: 112 or 150 or placement through the Latin placement examination.

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 a maximum of 8 hours. Prereq: 351-352 or consent of instructor.

435 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) (Same as History 255-256.)

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

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

Courses of Instruction
Courses of Instruction

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.

371 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.)

423 The Development of Diachronic and Synchronic Linguistics (3) Development of Western linguistic thought from the Hebrews and Greeks through modern times. Readings from Boas, Sapir, Bloomfield, and others. Prereq: 9 hours of courses required for the Linguistics major (300-level or above) 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.)

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.)

476 Second Language Acquisition (3) (Same as English 476.)

486 Special Topics in Language (3) (Same as English 486.)

490 Language and Law (3) (Same as English 490.)

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

LOGISTICS AND TRANSPORTATION (624)

301 Introduction to Logistics (3) Business logistics as a strategic area within the firm. Role of materials management and physical distribution, activities such as customer service, order processing and information flow, transportation, warehousing, purchasing, inventory, and system design and organization. Overview of supply chain operation.

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 the public and private sectors to meet those demands. Prereq: Economics 201.

400 Special Topics in Logistics and Transportation (3-6) 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. Consent of instructor.

411 Logistics and Transportation Analytical Methods (3) Introduction to the principal analytical tools and models used in logistics and transportation; applications of analytical tools to logistics and transportation problems; using analytical methods to support negotiations. Prereq: 301, 302.

441 Global Logistics and Transportation (3) Multinational logistics strategy, import-export process, global management, and air operations comparative transport systems analysis. Prereq: 301, 302.

450 Logistics Information Infrastructure Strategy and Design (3) An introduction to information strategy involving both structured and unstructured systems, using Internet and intranet networks. Prerequisite is basic understanding of Internet and intranet systems. Emphasis will be on designing a structured system using a PDE CASE tool, and an unstructured system using groupware that will be integrated with the system. Prereq: 301.

460 Seminar in Logistics and Transportation Strategy (3) Seminar in development of strategy for logistics and transportation in a supply chain perspective. Prereq: 411, Statistics 305, Senior Standing.

493 Independent Study (1-6) Directed research on a project 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.


321 Organizational Structure and Behavior (3) Behavioral processes in organizations: motivation, leadership, decision making, communication, group behavior, informal organizations, organizational change, conflict, politics, change, and development. Prereq: 301, 302.


401 Business Strategy/Policy (3) Strategy and policy which affect the character and 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 its objectives. Major writing requirement. Prereq: Completion of business core courses and senior standing. Must be admitted to a business major.

421 Total Quality Management (3) TQM is characterized by three main principles: customer focus, continuous improvement, and teamwork. Course focuses on the managerial perspective and in the formulation and implementation of strategy which will enable the organization to reach its objectives. Major writing requirement. Prereq: Completion of business core courses and senior standing. Must be admitted to a business major.

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, materials management. Prereq: 301.

471 International Management (3) Factors significant to the manager in international business activities.

492 Management Off-Campus Study (1-6) Satisfactory, No Credit grading only. Prereq: Consent of Instructor.

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, nonlinear, and dynamic programming as well as decision analysis, Markov, inventory and queuing models. Prereq: Mathematics 125, 125 and Statistics 201.

MARKETING (632)

301 Principles of Marketing (3) Practical applications-oriented review of what every manager needs to know about marketing to be able to effectively provide value to customers of the organization. Prereq: Accounting 201, Economics 201, Senior standing.
110 Algebraic Reasoning (3) A course in the applications of elementary mathematics to life in the modern world. Includes applications in financial mathematics, consumer mathematics, and other areas. Students preparing to take 123-125 should take 119 instead of 110. Prereq: Two years of algebra and one year of geometry in high school and other satisfactory placement test scores or Math 100. This course should not be taken to remove an entrance requirement.

119 College Algebra (3) A review of algebraic functions, equations, and inequalities for students who satisfy the course prerequisites for 123 or 125 but whose placement test scores indicate additional preparation is necessary. Students who receive a grade of C or better in any course numbered 123 or higher (except for 201 or 202) may not subsequently receive credit for 119. Prereq: Two years of algebra and one year of geometry and either satisfactory placement test scores or Math 100.

123 Finite Mathematics (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Exponential and logarithmic functions, elementary matrices, vectors and matrices, optimization. Prereq: Two years of algebra and one year of geometry in high school plus satisfactory placement test scores, or 119 or 130.

125 Basic Calculus (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 152 with a grade of C or better may subsequently receive credit for 125. Prereq: Two years of algebra and one year of geometry in high school plus satisfactory placement test scores, or 119 or 130.

130 Precalculus I (4) Review of algebraic functions, 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 130. Prereq: Two years of algebra, one year of geometry, and half a year of trigonometry in high school. Students who did not study trigonometry in high school may receive credit in trigonometry simultaneously with 130.

141-142 Calculus I, II (4,4) Standard first-year course in single variable calculus, especially for students of science, engineering, mathematics, and computer science. Differential and integral calculus with applications. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or Math 130.

143-144 Microcomputer Laboratory (1,1) Optional supplement to the calculus courses, featuring computer demonstrations and projects. Coreq: Students registering for 143 must also be registered for 141 or 147; students registering for 144 must also be registered for 142 or 148.

147-148 Honors: Calculus I, II (4,4) Honors version of 141-142 for well-prepared students. Qualified students are usually invited to enroll. May be taken for credit by other students having excellent high school mathematics backgrounds. Credit will not be given for both 147-148 and 123-125.

151-152 Mathematics for the Life Sciences I, II (3,3) For students majoring in the Life Sciences. Prereq: Not to serve as a prerequisite for 231 or 241. Topics include: descriptive statistics, linear regression, discrete probability, matrix algebra, difference equations, and differential equations. Emphasis on applications in the life sciences. Includes computer projects. Prereq: Two years of algebra, one year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or 130. Credit will not be given for both 151-152 and 141-142.

171 Computer Literacy for Mathematics (3) Introduction to computers, the internet, word processing packages and programming for prospective mathematics majors. Prereq: Math 141. S/N only.
130 Army Conditioning Program (2) Challenging instruction that concentrates on students' individual weaknesses and directly applies exercises designed to increase flexibility, strength, and cardiorespiratory endurance. Student also develops the ability to design and lead a fitness program. May be repeated.

200 Basic Military Studies - Practicum (2) 240 contact hours of instruction and evaluation at Fort Knox, Kentucky over a five week period during the summer. Prereq: United States citizen; physically qualified; at least two years remaining to complete degrees at the University (either undergraduate or graduate) or pursuit of additional course work cumulative GPA 2.00 or above; legally qualified. Letter grade only. Su

210 Basic Officer Skills I (2) The study of American military history from 1775 to 1914. Includes the relationship of military forces in peace and war and focuses on the history of military art, memoirs, battle history, technical studies, and the relationship of the armed forces with society. Labs teach rappelling, physical training, drill and ceremony, and historical field trips. Prereq: United States citizen, freshman, and six years remaining to complete degree. Letter grade only. Su

220 Basic Officer Skills II (2) Practical application of small unit operating techniques to include first aid, marksmanship and weapons familiarization, map reading and land navigation, drill and ceremony, processing of enemy prisoners of war (EPW), execution of individual/unit movement techniques, and the exercise of leadership. Prereq: 210 or consent of the Professor of Military Science. Letter grade only. Su

310 Advance Military Studies I (4) Discussion and practical exercise of leadership including operation of the military team, land navigation, small unit patrolling, and physical fitness. Traditional and case study/reservation roles of the military are developed in the classroom and applied during leadership labs and field training. Prereq: United States citizen; minimum six years remaining to complete degree (undergraduate or graduate); physically qualified; cumulative GPA 2.00; 3 or 4 years of ROTC (or 110, 120, 210, 220 completion) (or 200 completion) (or) basic training completion. Letter grade only. 3 hours and 1 hour lab. F

320 Advanced Military Studies II (4) Preparation of the future officer leader of the Army to excel at MS 400 Advanced Camp Practicum. Instruction builds upon lessons learned in the 310 and refines small unit leadership skills, map reading, technique, written and verbal communication, physical fitness. Includes three field exercises and a leadership laboratory. Prereq: 310. Letter grade only. 3 hours and 1 hour lab. F

400 Advanced Camp-Practicum (4) 240 contact hours of instruction and evaluation of leadership skills, group dynamics, communication skills, decision-making skills during the summer between the Junior and Senior year. Prereq: 310, 320. Letter grade only. Su

410 Command and Staff Functions (4) Command and staff duties and relationships including logistics, personnel, systems, efficiency reports, correspondence, training, administrative meetings, counseling, strategic force positioning, and noncombatant personnel relationships. Prereq: 310 and 320, 400 or consent of instructor. Letter grade only. 3 hours and 1 hour lab. F

420 Military Ethics and Law (4) Military professional, ethical reasoning, staff operations, general briefings and leadership, military justice system, individual leadership, law of Land Warfare. Prereq: 310, 320, 400, 410 or consent of instructor. Letter grade only. 3 hours and 1 hour lab. F

430 U.S. Military History, 1754 to the Present (3) (Same as History 451.)

450 Military Leadership Topics (1) Topics on principles and styles of military leadership. May be repeated for additional credit. 1 hour topic is different. Max 4 hours. Letter grade only. Prereq: Consent of instructor. Letter grade only. 3 hours and 1 hour lab. F

460 Military Ethics and Law (4) Military professional, ethical reasoning, staff operations, general briefings, and leadership, military justice system, individual leadership, law of Land Warfare. Prereq: 310, 320, 400, or consent of instructor. Letter grade only. 3 hours and 1 hour lab. F


490 Military Leadership Topics (1) Topics on principles and styles of military leadership. May be repeated for additional credit. 1 hour topic is different. Max 4 hours. Letter grade only. Prereq: Consent of instructor. Letter grade only. 3 hours and 1 hour lab. F

510 Conducting I (3) Basics of conducting: baton, time beating of traditional patterns, preparation, certification, and basic teamwork. Development of the left hand, fermata, subdivision, and the interpretation of full score. Conducting live groups. Prereq: Two years of music theory or consent of instructor. Letter grade only.
300 Conducting II (2) Developing advanced baton technique. Multiple rhythms, modern beat patterns and their variations. Studying, analyzing and interpretation of the full score. Conducting “live” groups in advanced works. Prereq: Conducting I or consent of instructor.

330 Music Methods for the Elementary School (3) Methods and materials for teaching music in the elementary grades. Primarily intended for music education majors. Prereq: Consent of instructor and admission to Teacher Education Program. Letter grade only. F

340 General Vocal Music Methods (3) School methods and materials for teaching music in the elementary, middle and high schools. Intended for the instrumental music education major. Letter grade only.

350 Field Experience in Music Education (1) Prereq: Consent of instructor and admission to Teacher Education Program. May be repeated. Maximum 3 hours. Satisfactory/No Credit only. E

400 Student Teaching in Music (12) Full time teaching practicum in an approved public school. Prereq: admission to the teacher education program and completion of all Music Education courses required for the Bachelor of Music degree (four-year alternative) in Music Education. Coreq: Music Education 400.

410 Senior Seminar (3) Issues related to the music teaching profession as experienced in Student Teaching. Coreq: Music Education 400.

420 Music Methods for the Junior High School and Middle School (3) Methods and materials for teaching vocal, instrumental, and general music at the junior high school or middle school level. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only.

430 Music Methods for High School (3) Methods and materials for vocal and instrumental music at the high school level, including charting for the marching band. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only.

440 Marching Band Techniques (2) Functions, organization, and direction of a school marching band. Letter grade only.

441 String Orchestra Pedagogy and Rehearsal Techniques (2) Function, organization and direction of a school orchestra program. Letter grade only.

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.

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 and admission to Teacher Education Program. May be repeated. Maximum 9 hours. Letter grade only. E

MUSIC ENSEMBLE (708)

301-501 Woodwind Choir (1,1) May be repeated. Maximum 12 hours.

303-503 Small Jazz Ensemble (1,1) May be repeated. Maximum 12 hours.

304-504 Jazz Ensemble (1,1) May be repeated. Maximum 12 hours.

305-505 Studio Orchestra (1,1) May be repeated. Maximum 12 hours.

306-506 Trombone Choir (1,1) May be repeated. Maximum 12 hours.

309-509 Tubas Ensemble (1,1) May be repeated. Maximum 12 hours.

310-510 Percussion Ensemble (1,1) May be repeated. Maximum 12 hours.

311-511 Marimba Choir (1,1) May be repeated. Maximum 12 hours.

312-512 Baroque Ensemble (1,1) May be repeated. Maximum 12 hours.

314-514 Brass Choir (1,1) May be repeated. Maximum 12 hours.

315-515 Chamber Music Ensemble (1,1) May be repeated. Maximum 12 hours.

316-516 Steel Band (1,1) May be repeated. Maximum 12 hours.

320-520 UT Singers (1,1) May be repeated. Maximum 12 hours.

MUSIC GENERAL (698)

140 Fundamentals of Performance (1-2) Private instrumental or vocal study, one or two half-hour units per week. (1 hour credit - elective, secondary, or minor: two hours credit - major.) The course is designed to prepare students for enrollment in Music Performance 103-195. Cannot be used to satisfy applied music requirements at the principal level in the B.M. or the B.Mus. degree in Music. May be taken for a maximum of 4 credits per semester. Admission by audition. A, B, C, NC. Requires payment of Applied Music Fee. F, Sp

200 Solo Class (0)

301 Junior Recital (0)

310 Practical Experience in Arts Management (3) Arts management practicum with approved arts organization. Individualized work with music manager in conjunction with supervised experience in arts organization management. For music majors only. Prereq: Consent of instructor. May be repeated for credit in areas of arts management.

401 Senior Recital (0)

411 Lecture Recital (0)

421 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)

110 Introduction to Music in Western Culture (3) Developing listening skills and understanding of Western music from the ancient world through the 20th century. For non-music majors. Writing-emphasis course.

115 Music in the United States (3) Explores musical traditions of the United States. For non-music majors. Writing-emphasis course.

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. F, Sp

200 Introduction to Music Literature (3) Basic forms of music and accepted masterworks through chronological approach. For music majors and minors only. Writing-emphasis course. F, Sp


230 Introduction to World Musics (3) Survey of music of representative cultures from Africa, Asia, Oceanica, and the Americas with a focus on music as sound and as part of the human condition. Also includes an emphasis on applying basic music terminology to developing listening skills.

310 Introduction to American Music (3) History of American music, blues, gospel, jazz and popular music with an emphasis on Black art forms and their contributions. (Same as 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.)

MUSIC INSTRUMENT (710)

310 Brass Literature and Pedagogy (3) Survey of brass solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied woodwind faculty and class members. Prereq: Consent of instructor.

320 Woodwind Literature and Pedagogy (3) Survey of woodwind solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied woodwind faculty and class members. Prereq: Consent of instructor.

330 Percussion Literature and Pedagogy (3) Survey of percussion solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied woodwind faculty and class members. Prereq: Consent of instructor.

340-350 String Literature and Pedagogy I, II (3,3) Survey of string solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied woodwind faculty and class members. Prereq: Consent of instructor.

340-350 Symphony Literature and Pedagogy (3) History and development of symphonic music and its composers and relationship of different styles to the conductor's art; musical analysis and practice in conducting. Prereq: Music Education 320 or equivalent.
MUSIC JAZZ (711)
110 Jazz Theory (2) Fundamentals of the jazz language, including terminology, chord symbols, chord progressions, plus ear-training lab. Prereq: Music Theory 110.
120 Analysis of Jazz Styles (2) Individual improvisatory styles through analysis of their transcribed solos. Training and function of the ear in music. Transcription of solos from recordings and preparation of analysis. Prereq: 110.
130-140 Jazz Piano I, II, I (1,1) Harmonic language of jazz. Interpretation of chord formulas, vocabulary for voicing chords, chord progressions, and fundamental melody development. Improvisation for right hand. Must be taken in sequence.
160 Introduction to Styles in Jazz Drumming (2) Examination of major composers and performers who have contributed significantly to creation of principal styles of jazz drumming.
210-220 Jazz Improvisation I, II, (2,2) Study and application of principles of improvisation, including nomenclature, chord progressions, chord-scales, patterns, melodic development, and tune styles. Prereq: 110.
310 Jazz Composition and Arrangement (2) Prereq: Consent of instructor.
320 Jazz Band Arranging (2) Arranging and scoring for the Big Jazz Band. Prereq: Consent of instructor.
410 Advanced Improvisation (3) Development of individual skills and solving individual problems in jazz improvisation. Prereq: 210 and 220.
420 Jazz Pedagogy (1) Methods and materials relating to teaching of jazz, arranging and administering jazz programs, and rehearsal techniques for jazz ensembles. Prereq: Studio Music and Jazz major or consent of instructor.

MUSIC KEYBOARD (712)
110-120 Class Piano I, II, I (1,1) Development of keyboard skills in reading, technical, repertoire, harmonization, and transcription. Must be taken in sequence. Prereq: successful completion of music audition and theory placement exam. Intended for music majors and minors.
210-220 Class Piano III, IV, I (1,1) Continuation of 110-120; 220 completes piano competency requirement; must be taken in sequence.
230 Keyboard Harmony (1) Melody harmonization, figured bass realization, and improvisation. Prereq: Music Theory 110-120.
240 Church Service Playing (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, I (1,1) Continuation of 240. Prereq: Consent of instructor.
330 Sight Reading at the Keyboard (1) Prereq: Consent of instructor.
340-350 Piano Pedagogy I, II, I (3,3) Pedagogical methods and materials related to the development of principles of learning; collaborative teaching experience. Must be taken in sequence.
420-430 Piano Literature I, II, I (3,3) 420—from 1750 to middle 19th century; 430—middle 19th century to present.
460-470 The Organ and Its Literature I, II, I (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 (3) Historical survey and evaluation of teaching materials and methodology for college and/or adult beginning piano classes, with collaborative 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.
NUCLEAR MEDICINE TECHNOLOGY (718)

Courses in this concentration are open only to qualified students who have completed the first three years of the Nuclear Medicine Technology Curriculum, described in the College of Basic Sciences curricula section of this catalog, and who have been admitted to the Nuclear Medicine Technology Program at UT-MCK.

410 Physics for Nuclear Medicine I (3) Nuclear physics, mathematics, and statistics. Survey of historic and current concepts in nuclear structure, and relationships between matter and energy, nuclear reactions, nuclear stability, production of radionuclides, radiocarbon dating, decay schemes, and charts used in nuclide identification and behavior prediction. Mathematics and statistics topics include basic arithmetic theories, mathematical manipulations, and applied technical mathematics for use in radio active decay equations, dose calculations and concentration, and radioactive chemical and physical applications of mathematics to nuclear medicine. May not be substituted for Physics 471 or 472.

411 Nuclear Instrumentation (3) Course concerns non-imaging, imaging, and instrument quality assurance. Non-imaging topics include basic radiation detectors, their applications, functions, and limitations with overview of basic electronics, gases-filled detectors, statistics and counting, solid and liquid scintillation detection systems, semiconductor and instrument introduction, and quality control. Imaging topics are instrumentation of imaging devices, including basic function, applications, and instrument identification. The quality assurance unit emphasizes function and maintenance requirements of nuclear instrumentation, radiation safety practices, and the evaluation of quality control data.

412 Radiopharmacy (2) Emphasis on basic chemistry and radiopharmacy in nuclear radiopharmacy. Topics include radiopharmaceutical preparation and quality assurance, radiopharmaceutical production, and basic photographic film chemistry. Kinetics, biodistribution, and mechanisms of localization are also included, plus guidelines and principles of reviewing radiopharmacy management and operation.

415 Physics for Nuclear Medicine II (3) Continuation of 410 with focus on radiobiology and radiation safety. Radiobiology topics include spatial and temporal aspects of radiation damage, cell and systemic responses to radiation, early and late somatic and genetic effects, biological effects of radiation, and cell cycle effects. Radiobiology topics include internal and organ and dose calculations, and benefit versus risk factor. Radiation safety topics include exposure terminology, dose limit recommendations, ALARA philosophy, federal and state regulations, radiation monitoring equipment, and methods and techniques for safe practice of nuclear medicine.

420-430-440 Clinical Nuclear Medicine I, II, III (4,4,4) Theories and applications of selected radionuclides. I—Patient care, central nervous system, endocrine system, respiratory system and digestive system; II—hepatic and hemodynamic system, gastrointestinal systems, muscular-skeletal system, non organ/tumor/immunomodulation imaging, cardiovascular imaging, non-imaging nuclear medicine, nuclear medicine therapy, molecular imaging, neoplasm imaging, and clinical applications. III—biologic, positron emission tomography, clinical quality assurance, pediatric nuclear medicine, radiocaine therapy, and quality assurance of clinical nuclear medicine programs.

425 Computer Applications in Nuclear Medicine (3) Computer systems, applications, and components in nuclear medicine. Topics include acquisition modalities and limitations, image processing modes and limitations, and image quality with some attention to machine and language architecture and numbering systems.

450-460-470 Clinical Practicum I, II, III (4,4,4) Clinical instruction in routine nuclear medicine procedures conducted at UT-MCK and other clinical sites. Local clinical instruction activities in imaging, instrumentation, radiopharmacy, data administration, radiation safety and protection, non-imaging procedures, patient care and preparation, computer applications, radiocaine therapy, and basic administrative and management procedures.

475 Nuclear Medicine Registry Review (2) Preparation for Nuclear Medicine Registry exam with emphasis on film interpretation and reporting in technical critique sessions.

NURSING (720)

All upper division nursing courses except 301, 314, and 327 are restricted to students who have progressed into the major. See Progression Policies and Procedures.

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. Prereq: admission to the helping professions are examined. This course has no prerequisites and is open to all UT Knoxville undergraduate students.

301 Clinical Pharmacology (3) Biochemical and pharmacologic effects of therapeutic agents 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.

302 Foundations of Professional Nursing (3) History, philosophy, and scope of nursing practice with emphasis on communication, therapeutic interventions, and safe methods of patient handling. Clinical laboratory experiences provide the opportunity for the application of these processes in the care of adult clients in selected health care settings. 2 lectures, 3 labs. Coreq: or Prereq: 301, 304, 306.

303 Nursing Assessment and Wellness Promotion (4) Developmental, psychosocial, cultural, environmental, spiritual, family, and physical dimensions of health assessment. Collection and application of assessment data in formulation of wellness-oriented nursing diagnoses and use of the nursing process in promotion of health and prevention of illness. Emphasis on the application of wellness-oriented nursing process.

304 Transition to Professional Nursing (3) Current status of professional nursing; utilization of the nursing process in changing health care delivery systems. Philosophical and conceptual framework of the baccalaureate nursing program and selected physiological and behavioral deviations demonstrated by clients whose health problems require inpatient services. Prereq: to 330, 401, 411, 431, and 433. 3 lectures. 1 lab. F

305 Children's Health Care (3) Nursing care of children. Application of the nursing process to health care of children in hospital and home settings. Prereq: All 300 level clinical nursing courses or RN status. F, Sp

306 Health Deviation Concepts I (4) Content related to the nursing process in the care of clients with physical, psychologic, and/or behavioral deviations associated with disease states and conditions. Prereq: All 300 level clinical nursing courses or RN status. F, Sp

313 Introduction to Nursing Research (3) Language of research; types of research designs, methodology, approaches, sampling, data analysis, and significance of findings. Evaluation of existing and ongoing nursing research studies. Prereq: 302 or 305 or consent of instructor. Sp

316 Health Deviation Concepts II (4) Continuation of 306. Emphasis on research related to health care applied to patients with physiologic and behavioral deviations un-derlying or associated with complex and critical illnesses. Prereq: 301, 306. Sp

317 Nutrition and Clinical Problems (3) Clinical problems related to nutrition are presented in early, middle, and late adulthood with various health needs. Emphasis on the provision of planned nutrition care. Prereq: 301, 306. 1 lecture, 1 lab. Prereq or Coreq: 301, 302, 304, 306 or RN status. F, Sp

322 Community Health Nursing: Aggregates (3) Introduction to the history, philosophy, and scope of community health nursing. Aggregates at risk for illness, disability, or death. Application of the nursing process to the care of these aggregates with emphasis on health education for health promotion and disease prevention. 1 lecture, 1 sem., 1 lab. Prereq: 301, 302, 304, 306 or RN status. Coreq: 316, 330 or consent of instructor.

401 Family Health Nursing (6) Nursing needs of families in health and illness. Process of comprehensive care to families in the childbearing and childrearing phases of family development. Application of theories of human growth and development to family dynamics, and crisis intervention to provision of nursing care to families experiencing normal pregnancy and child birth and to those experiencing such health problems or complications as congenital anomalies, high risk birth, disturbed parent/child relationships, or gynecologic disturbances. 3 lectures, 3 lab. Prereq: All 300 level clinical nursing courses or RN status. F, Sp

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: All 300 level clinical nursing courses or RN status.

411 Psychosocial Long-Term Nursing (6) Nursing care of clients who are experiencing chronic illness, chronic disablement, behavior, or long-term nature. Equal emphasis on prevention, wellness promotion, and rehabilitation. Nursing care related to clients with chronic psychiatric and chronic illness emphasis in a variety of acute, extended care, and rehabilitation facilities. 3 lectures, 3 lab. Prereq: All 300 level clinical nursing courses or RN status. F, Sp

414 Community Mental Health Nursing (6) Nursing needs of clients and groups with psychosocial and/or long-term health problems. Clinical experiences provide opportunities for students to 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. Su

415 Family/Community Health Nursing (6) Application of the nursing process to individuals, families, and groups in the childbearing-childrearing phases of development. Emphasis on experiences similar to those in a hospital and in community settings. 3 lectures, 3 lab. Prereq: All 300 level nursing courses. For non-nurse MSN students only. Su

431 Nursing of Children (4) Theoretical component and clinical laboratory experiences related to the nursing care of infants, children, and adolescents. Emphasis on application of physiological, sociocultural, behavioral, and developmental concepts for the provision of nursing care in various settings. 2 lectures, 2 lab. Prereq: All 300 level nursing courses or their equivalent or RN status. F, Sp

433 Community Health Nursing: Individuals and Families (3) Exploration of political, social, economic, environmental, ethical issues, related to community health nursing. Applications of the nursing and epide-miologic processes to the care of individuals and fami-ly members within the home and community. Emphasis on health promotion, disease prevention, and control of communicable diseases. 1 lecture, 1 sem., 1 lab. Prereq: All 300 level nursing courses or RN status. F, Sp

440 Leadership and Management in Nursing (3) Introduction to selected concepts related to leadership and management in the delivery of nursing care and nursing services. Prereq: All required 300 level courses. Or Coreq: 401, 411, 431, 433, or RN status. F
Courses of Instruction

302 Life Span Nutrition (3) Nutritional development and psychosocial factors that influence nutrient needs and food choices of individuals across the life span. Nutrition education strategies for various age groups. PreReq: 100, BCBM 230 or consent of instructor.

303 Foodservice Systems Management (3) Assessment of managerial, organizational and operational systems in food production, service and delivery. Focus on markets related to dietary practice, human resource policies and strategies applied to foodservice systems management.

310 Physiological Chemistry (4) (Same as Biochemistry 310).

312 Science of Food (4) Elements of food selection, safety, preparation and evaluation. Chemical and physical properties of food related to functional and nutritional properties. Sensory evaluation concepts and techniques. Effects of processing on food. PreReq: 100, Chemistry 350. Coreq: Micro 310. 3 hours and 1 lab.

313 Vitamins and Minerals (3) Functional properties and interpersonal relationships among vitamins and minerals as they apply to human nutrition. PreReq: 100, BCBM 230, Chemistry 350. Coreq: or PreReq: 310.

314 Energy Metabolism and Metabolic Integration (3) Integration of carbohydrate, fat and protein metabolism and applied to nutrient utilization and requirements in humans. PreReq: 310, 313.

410 Professional Issues in Dietetics (1) Dietetic registration, licensure; third party payments; dietetic practice; marketing dietetics; internship application preparation; legal policy in dietetic practice. PreReq: Senior standing.

412 Food and Nutrition in the Community (3) Influence of health characteristics, geographic, social, economic, and cultural factors on food and nutrition programming; relationship of community food and nutrition problems to programs and services for families and communities with particular attention to disease prevention; public policy. PreReq: 302, 415.


420 Food and Nutritional Analysis (4) Principles, procedures, and instrumentation for analysis of food and body fluids. Interpretation of chemical, dietary, and anthropometric data in nutrition research. PreReq: 100, 310.

450 Special Topics: Nutrition (1-3) Developments, issues and problems in Nutrition; topics variable. PreReq: Junior or Senior standing in NTR or consent of instructor. May be repeated for credit. Maximum 3 credits.

451 Professional Leadership Issues II (2) Focus on concepts and strategies for application of management and leadership role as a professional nurse, including impact of economic issues on health Care Delivery. Emphasis on use of self as therapeutic agent with individuals, groups, and families developing nursing strategies for psychiatric patients. Students will be required to conduct 300 level nursing courses or RN status. PreReq: 351, 361.

452 Professional Leadership Issues III (2) Depth analysis of selected concepts examined in 351. Legal and regulatory impact of economic issues in health Care Delivery. Emphasis on use of self as therapeutic agent with individuals, groups, and families developing nursing strategies for psychiatric patients. Students will be required to conduct 300 level nursing courses or RN status. PreReq: 351, 361.

453 Oncology Nursing (3) In-depth exploration of cancer process, including: related biochemical and pharmacologic theories to theories of carcinogenesis and metastasis; overview of potential therapies and nursing interventions employed in all phases of the disease. Interdisciplinary approach analyzed. Prereq: 411 or 412 or consent of instructor.
Courses of Instruction

231 Interior Plantscaping II (3) Commercial application of design, sales, proposals, plantscapes, and basic plant materials. Prereq: 230 or consent of instructor. Sp

280 Fundamentals of Landscape Design (3) History of landscape design as it relates to contemporary applications. Awareness and sensitivity to the landscape; basic graphic skills and design techniques; considerations for residential landscape planning. Prereq: Landscape and Natural Resources 210 or 290 or consent of instructor. 2 hours and 2 labs. E

320 Plant Materials (2) Identification, classification, and design uses of ornamental plants including trees, shrubs, vines, and herbaceous plants and generally excluding those covered in 220. Prereq: 220 or consent of instructor. 2 labs. Sp

330 Plant Propagation (3) Physiology, methodology, and environmental requirements for propagation. Prereq: 8 hours of biological sciences or consent of instructor. 2 hours and 1 lab. F

340 Turfgrass Management (3) Practical turfgrass management: cultivation, selection, identification, and establishment; basic fertilization programs, mowing, and irrigation practices, and thatch and compaction control; production of turfgrass. Prereq: Plant and Soil Science 210; 8 hours of biological sciences or consent of instructor. 2 hours and 1 lab. F

350 Basic Landscape Construction (3) Basic materials and design elements of landscape construction; site analysis and design process; landscape grading and drainage. Prereq: 280. 2 hours and 1 lab. F

360 Practicum in Landscape Construction (3) Practical experience in implementation of landscape development projects. Directed lab and field instruction in implementing and integrating landscape design drawings and specifications. Prereq: 350. Two three hour labs. Sp

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


390 Fall Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of late summer and fall herbaceous ornamental plants including annuals, perennials, herbs, bulbs and other Wang gerates. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 110 or consent of instructor. F

391 Spring Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of spring and early summer herbaceous ornamental plants including annuals, perennials, herbs, bulbs and other Wang gerates. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 110 or consent of instructor. Sp

410 Nursery Management and Production (3) Management methods as applied to retail and wholesale nurseries and landscape contracting firms. Methods of producing liners, container and field-grown woody ornamental plants. Prereq: 220, 330, and Plant and Soil Science 210. 2 hours and 1 lab. F

420 Public Horticulture (2) Indepth study of the public horticulture industry. Attention given to the diversity of public horticulture institutions, career opportunities, and research. Discussion of current topics and issues. Senior standing. Prereq: 280. 2 hours and 1 lab. Sp

430 Greenhouse Floral Crop Production (3) Principles of greenhouse operation and management for commercial production of floral crops. Greenhouse construction, basic greenhouse scheduling, and basic cost accounting. Environmental inputs and cultural practices as they affect plant physiological processes and influence plant growth and development. Prereq: Agriculture and Natural Resources 290 or consent of instructor. Sp

431 Greenhouse Floral Crop Production Laboratory (1) Greenhouse production of selected floral crops. To be taken concurrently with 430. Prereq: Agriculture and Natural Resources 290 or consent of instructor. Sp

440 Advanced Turfgrass Management (4) Principles and scientific basis of turfgrass identification, care, nutrition, irrigation, climatic influences on turfgrass; physiology of clipping and water management and construction, installation, and management of golf courses; environmental influences of pest infestation and control measures. Prereq: 340 or consent of instructor. 3 hours and 1 lab. Sp

450 Specialty Landscape Construction (3) Methods of design, materials, and construction techniques for specialized components of the landscape industry. Irrigation systems, outdoor lighting, garden ponds and water features. F

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

460 Professional Practices in Landscape Construction and Management (2) Professionalism, salesmanship, proposals, bidding, estimating, specifications, and contract management in landscape services industry. Computer technology applicable to landscape construction and contract industry. Includes presentation and industry representatives. Prereq: 350 or consent of instructor. 2 hours. Sp

480 Advanced Landscape Design (3) Comprehensive application of landscape design skills to a variety of project experiences with an emphasis on landscape planning and analysis, design, and materials estimating. Prereq: 390. Two 3 hour labs. Sp

485 Computer Aided Landscape Design (3) Overview of Computer Aided Design (CAD) as it relates to landscape design and construction. Emphasis on development of landscape design drawings through utilization of LANDCADD software. Prereq: 280, 380, and Agriculture and Natural Resources 290. F, Sp

490 Seminar (1) Current problems in ornamental horticulture and landscape design. Prereq: Senior standing. F

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

494 Professional Horticultural Communications (3) Communication for public horticulturists through written, oral, and visual media. Emphasis on communication skills using proper writing techniques and grammar for print media, brochure design using desktop publishing, slide show development, and video use for educational and informational presentations in Ornamental Horticulture, Prereq: Agriculture and Natural Resources 290 and senior standing. F

499 Capstone Experience (3) Supervised intensive integrative experience which extends student's knowledge of turfgrass, floriculture, nursery, landscape design or public horticulture field; with concentration in individually selected area. Not intended for use as an independent problem study. Prereq: Senior Standing and consent of Department Head. E

PERSSIAN (744)

161-162 Elementary Persian I, II (4, 4) (Same as Asian Studies 141-142).

261-262 Intermediate Persian I, II (4, 4) (Same as Asian Studies 261-262).

PHILOSOPHY (745)

110 The Human Condition: Values and Reality (3) The meaning of life, the existence of God, freedom of the will, human nature and values. Writing-emphasis course.

111 The Human Condition: Knowledge and Reality (3) The place of mind in a material universe and the nature and possibility of knowledge. May be taken before 110. Writing-emphasis course.

120 Foundations of Western Thought: Antiquity through 1500 (3) Plato, Aristotle, Late Antiquity and the Medieval Period. Writing-emphasis course.

121 Foundations of Western Thought: 1500 through Early Twentieth Century (3) Development of Rationalism and Empiricism throughout the early Western Philosophy. May be taken before 120. Writing-emphasis course.

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

135 Formal Logic (3) Introduction to formal deductive systems, propositional and predicate logic. Satisfies Arts and Sciences Basic Skills Requirement "Mathematics, Computer Science or Logic".

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

202 Ethics (3) Theories of ethical values. Writing-emphasis course.

242 Ethical Theory and Its Applications (3) A study of moral values and principles in theoretical and practical contexts. Open only to students registered in the College of Business Administration.

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

300 Special Topics (3) May be repeated. Maximum 6 hours.

320 Ancient Western Philosophy (3) Writing-emphasis course.

322 Medieval Philosophy (3) Development of medieval thought from St. Augustine to William of Ockham. Secondary and primary sources. (Same as Medieval Studies 322 and Justus Studies 322.) Writing-emphasis course.

324 Seventeenth- and Eighteenth-Century Philosophy (3) Writing-emphasis course.

326 Nineteenth- and Twentieth-Century Philosophy (3) Writing-emphasis course.

328 Business Ethics (3) Ethical problems they confront both business as a social institution and individuals in business. Writing emphasis course.

340 Professional Responsibility (3) Critical analysis of selected ethical topics from philosophy, religious studies, and social sciences dealing with responsibility and the nature of professionalism. Theoretical principles and analytical skills applied to selected case studies and other detailed descriptions of professional practice from engineering/architecture, business/accounting; and at least one of law/politics; helping professions (social work, human services, ministry, teaching); (Same as Religious Studies 344.) Writing emphasis course.

343 Medical Ethics (3) Ethical issues in medicine such as abortion, euthanasia, human experimentation, fairness in health care delivery and the doctor-patient relationship. (Same as Religious Studies 345.) Writing emphasis course.

346 Environmental Ethics (3) Issues concerning the nature of the environment and the place of humanity within it.

349 War and Morality (3) Moral justification for war (jus ad bellum); legal and moral constraints in war (jus in bello). Writing emphasis course.

350 Aesthetics (3) Philosophical discussion of art. Writing-emphasis course.

353 Philosophy and Literature (3) Nature of literature; philosophical assumptions in literary works. Writing-emphasis course.

350 Philosophy of Science (3) An introduction to major problems in the Philosophy of Science. Specific issues vary, but may include: the relationship between experiments, theories, and scientific practice; how theories change and how scientific discovery occurs; the role of the non-science community in the scientific enterprise; (Same as Religious Studies 344.) Writing emphasis course.

353 Philosophy and Literature (3) Nature of literature; philosophical assumptions in literary works. Writing-emphasis course.

350 Philosophy of Science (3) An introduction to major problems in the Philosophy of Science. Specific issues vary, but may include: the relationship between experiments, theories, and scientific practice; how theories change and how scientific discovery occurs; the role of the non-science community in the scientific enterprise; (Same as Religious Studies 344.) Writing emphasis course.

362 Philosophy of Science (3) An introduction to major problems in the Philosophy of Science. Specific issues vary, but may include: the relationship between experiments, theories, and scientific practice; how theories change and how scientific discovery occurs; the role of the non-science community in the scientific enterprise; (Same as Religious Studies 344.) Writing emphasis course.

362 Philosophy of Science (3) An introduction to major problems in the Philosophy of Science. Specific issues vary, but may include: the relationship between experiments, theories, and scientific practice; how theories change and how scientific discovery occurs; the role of the non-science community in the scientific enterprise; (Same as Religious Studies 344.) Writing emphasis course.

370 Philosophy of Religion (3) Analysis of basic issues in the philosophy of religion. (Same as Religious Studies 370.)

374 Philosophy and Religion of India (3) (Same as Religious Studies 374.)

376 Buddhist Philosophy and Religion (3) (Same as Religious Studies 376.)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites / Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>222</td>
<td>Paddleball (1) Introduction to paddleball, backhand, drive, and serve</td>
<td>1</td>
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<tr>
<td>223</td>
<td>Personal Safety and Self-Defense (1) Develop and enhance the options of self-defense so they may become visible considerations for personal safety. Satisfactory/No Credit grading only.</td>
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<td>224</td>
<td>Physical Fitness: Conditioning (1) Program of flexibility, strength, and cardiovascular endurance through exposure to various exercise forms. Satisfactory/No Credit grading only.</td>
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<tr>
<td>225</td>
<td>Physical Fitness: Exercise to Music (1) Total workout to music with lecture emphasis on basic fitness components of flexibility, strength, and cardiovascular fitness.</td>
<td>1</td>
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<tr>
<td>226</td>
<td>Exercise and Weight Control (1) Exercise activities and basic fundamentals of nutrition for students interested in losing weight: includes body composition assessment and instruction on achieving a goal weight</td>
<td>1</td>
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<tr>
<td>230</td>
<td>Physical Fitness: Swimming (1) Introductory course outlining basic principles of fitness, evaluation, and workout design in the aquatic environment.</td>
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<tr>
<td>231</td>
<td>Physical Fitness: Walking (1) Course for those wishing to begin a fitness program: includes measurement and interpretation of fitness components, including body composition, cardiorespiratory fitness, low back function and nutrition</td>
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<tr>
<td>232</td>
<td>Racketball II (1) Pass, kill, ceiling shots, and basic serves. Singles and doubles strategy, necessary for recreational play.</td>
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<tr>
<td>234</td>
<td>Soccer (1) Introduction to individual and team fundamentals, rules, and strategy.</td>
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<tr>
<td>235</td>
<td>Social Dance (2) Popular ballroom dance forms such as the swing (shag), foxtrot, cha cha, tango and rumba.</td>
<td>2</td>
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<tr>
<td>236</td>
<td>Softball (1) Introduction to individual and team fundamentals, rules and strategy.</td>
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<td>239</td>
<td>Beginning Swimming (1) Includes skills in the American Red Cross basic swimming course for the non-swimmer.</td>
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<tr>
<td>240</td>
<td>Intermediate Swimming (1) Crawl stroke, elementary back stroke, side stroke, breast stroke, underwater and surface breathing.</td>
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<tr>
<td>244</td>
<td>Tennis I (2) Introduction to forehand, backhand, volley, serves, scoring and simple strategy.</td>
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<tr>
<td>245</td>
<td>Tumbling I (1) Beginning tumbling skills including forward and backward rolls, twisting, balance, agility, and combinations.</td>
<td>1</td>
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<tr>
<td>246</td>
<td>Tumbling II (1) Front and back somersaults, front and back tucks, and combinations.</td>
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<tr>
<td>247</td>
<td>Volleyball (1) Introduction to individual and team fundamentals, rules, and strategy.</td>
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<tr>
<td>252</td>
<td>Weight Training (1) Introduction to the principles of strength development for large muscle groups through the use of free weights and machines.</td>
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<tr>
<td>254</td>
<td>Yoga and Relaxation (1) Introduction to yoga and various forms of relaxation, with the majority of class time spent learning and refining the postures.</td>
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<tr>
<td>258</td>
<td>Water Safety Instructor (2) Prepares individuals to teach American Red Cross basic swimming and personal safety courses for youth and adults.</td>
<td>2</td>
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<tr>
<td>259</td>
<td>Snow Skiing (1) Development of skills necessary to balance, walk and slide while on skis. Learn ski etiquette and &quot;Skier's Responsibility Code.&quot; Satisfactory/No Credit grading only.</td>
<td>1</td>
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<tr>
<td>260</td>
<td>Western Dance (1) Popular western dance forms including line dances, western social dances, mixers and couples.</td>
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<td>261</td>
<td>Scuba Diving (1) Introduction and developmental SCUBA diving skills as well as the theory: safety skills and practical application of skills to open water SCUBA diving.</td>
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<tr>
<td>301-302</td>
<td>How Things Work (3,3) For students with majors outside science. Examines familiar objects of everyday experience and leads to an understanding of the physical principles that make them work. No prerequisite.</td>
<td>3,3</td>
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<tr>
<td>315-316</td>
<td>Introduction to Physics for Physical Science Majors (4,4) A one year course in calculus-based physics. Satisfies prerequisite for 200 level and beyond.</td>
<td>4,4</td>
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</tr>
<tr>
<td>317-318</td>
<td>Honors Fundamentals of Physics for Physics Majors (3,3) Physics and engineering physics majors and qualified students from other majors. Coreq: Mathematics 141-142.</td>
<td>3,3</td>
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</tr>
<tr>
<td>321</td>
<td>Fundamentals of Physics: Electricity and Magnetism (3) For engineers and Arts and Sciences majors in mathematics and the physical sciences. Required of all engineering students. Coreq: Basic Engineering 121-131; Coreq: Mathematics 142, 2 hours lecture, 3 hours lab/recitation.</td>
<td>3</td>
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<tr>
<td>322</td>
<td>Fundamentals of Physics: Wave Motion, Optics, and Modern Physics (4) Continuation of 231. Required of all engineering students. Coreq: 231; Coreq: Mathematics 241, 3 hours lab/recitation.</td>
<td>4</td>
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<tr>
<td>324</td>
<td>Fundamentals of Physics: Modern Physics (3) Special relativity, fundamental concepts of modern physics and their applications to atomic, nuclear, particle and condensed matter physics.</td>
<td>3</td>
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<tr>
<td>328</td>
<td>Electromagnetic Theory and Applications (3) For physicists and engineers in electrical and computer engineering.</td>
<td>3</td>
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<tr>
<td>331-332</td>
<td>Mechanics (3,3) 331—Kinematics and dynamics of single particle systems, rotating reference systems. 332—Many body systems, rigid bodies, Lagrange's Hamiltonian equations. Strong emphasis on programming and numerical methods. Must be taken in sequence. Coreq: For 331: 131 or 133 or 231; Coreq: For 332: Math 241.</td>
<td>3,3</td>
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<tr>
<td>334</td>
<td>Introduction to Nuclear Physics (3) Introductory theoretical nuclear physics with emphasis on applied aspects. Primarily for Nuclear Engineering majors. Preq: 240 or 232.</td>
<td>3</td>
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<tr>
<td>342</td>
<td>Structure of Matter (3) Physics of molecules and condensed matter. Preq: 240 or 232.</td>
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<tr>
<td>351-352</td>
<td>Electronics Laboratory (3,3) Electronic devices and instrumentation techniques in the physics laboratory. 351-Basic analog and digital electronics, including elementary building blocks of relevance to data acquisition systems, operational amplifiers, digital-to-analogue and analog-to-digital conversion, use of standard laboratory instruments, and applications of microcomputers. 352-Advanced instrumentation techniques applied to the study of electronic circuits as dynamic physical systems, feedback and stability, noise, discrete sampling, Fourier analysis and synthesis, nonlinear circuit dynamics. Preq: 136 or 138, or 232, 6 hours lab per week.</td>
<td>3,3</td>
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</table>
## PLANT AND SOIL SCIENCES (792)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>200</td>
<td>Current Topics in Environmental Science (1) Study of basic principles in plant biology and soil science.</td>
</tr>
</tbody>
</table>
430 United States Constitutional Law: Sources of Power and Restraint (3) Judicial review, constitutional powers of the President and Congress, federalism, courses of regulatory authority, and constitutional protection of political and economic rights.


435 Criminal Law and Procedure (3) An overview of substantive and procedural law in the criminal justice field with emphasis on constitutional questions and public policy issues.

440 Public Management and Human Resources (3) How to mobilize and manage 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 powers and procedures, and constitutional controls over administrators.

452 Black African Politics (3) Recent evolution and current political environment of Black African nations.

454 Government and Politics of China and Japan (3) Political setting, structure and political processes in China and Japan.

459 Government and Politics of Russia and Eastern Europe (3) System transformation, political processes and government structure in Russian and Eastern European countries.

461 Policy Making in Democracies (3) Comparative approach to theory and process of making public policies.

463 Contemporary Middle East Politics (3) Governmental and movements in the Middle East, their characteristics, bases, and international role.

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.

471 International Political Economy (3) Economic relations between countries; theoretical and case studies of efforts to construct multilateral international institutions. Topics include economic growth, international trade and investment, development and global equity.

472 Normative Issues in International Relations (3) An examination of such normative issues among states as human rights, environmental degradation and distributive justice.

475 Ancient and Medieval Political Thought (3) Major western political thinkers from Socrates to Machiavel to Marx.

476 Modern Political Thought (3) Major western political thinkers from Machiavel to Marx.

487-488 Senior Honors Thesis and Seminar (3,3) Required of honors majors, admission with consent of department.

491 Foreign Study (1-15) Prereq: Consent of department. May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Prereq: Consent of Department. May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 15 hours.

494 Internship (1-6) Prereq: Consent of department. May be repeated. Maximum 6 hours.

107 Honors: United States Government and Politics (3) Analysis and exploration of the American political system for students with superior ability. Admission by permission of department for students with at least a B average; entering freshmen accepted on basis of strong placement on school and high school record.

300 Introduction to Political Philosophy (3) An introduction to the concepts of political philosophy and significant thinkers associated with political philosophy with specific attention to differing conceptions of human nature, political status, civic obligation and rights, freedom, justice and democracy.

311 Contemporary Issues in American Public Policy (3) Selected public policy issues confronting the nation, including the background, nature, and effects of present policies, and options for the future. Writing-emphasis course.

312 Popular Culture and American Politics (3) Popular culture related to American politics and government focusing on the role of film, television, fiction, music, drama, art and sports. Writing-emphasis course. (Same as American Studies 312 and Cinema Studies 312.)

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 intergovernmental relations.


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.

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) Characteristic problems of political change with primary focus on developing areas. Writing-emphasis course.

355 Latin American Government and Politics (3) Introduction to contemporary conditions in Latin America. (Same as Latin American Studies 355.) Writing-emphasis course.

360 Politics in Western Democracies (3) Political culture patterns, and institutions of Western democratic systems. Writing-emphasis course.

365 Introduction to International Relations (3) Resource availability, international economics, international security (war, arms control, imperialism, war, diplomacy, the balance of power, international law and international organization.) Writing-emphasis course.

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

374 American Political Thought (3) Major themes and ideas in American political thought related to the development of American political institutions, values, and practices. Writing-emphasis course.

387-388 Junior Honors Seminar (3,3) Required of honors majors; admission with consent of department.

401 Political Analysis (3) Nature, character, and function of research design, data collection, and statistical techniques used in the study of politics.

402 Political Attitudes and Behavior (3) Systematic examination of political attitudes, public opinion and political behavior. (Same as American Studies 420.

403 Political Parties and Interest Groups (3) Analysis of political parties, interest groups, campaigns and elections.

PORTUGUESE (811)

111-112 Elementary Portuguese (3,3) Introduction to Portuguese must be taken in sequence. Language Laboratory required. (Same as Spanish 111-112.

119 Portuguese Language and World Business (2) The course will examine the importance of foreign trade at the local, national, and international levels. An interdiscipli- nary team of faculty from the Colleges of Business and Arts and Sciences will provide an overview of the value of language study and intercultural awareness in world business. Restricted to students planning in the Language & World Business major concentration. See the Director for further information. F

211-212 Intermediate Portuguese (3,3) Stress on reading, writing, listening, and speaking of Portuguese to prepare for upper division courses in the language. Must be taken in sequence. Language Laboratory required. F, Sp

301-302 Literature, Culture, and Civilization of the Portuguese-Speaking World (3,3) A course for students who have completed the intermediate sequence of Portuguese and wish to enhance their knowledge of language and culture through the medium of literature, taught in Portuguese. Prereq: 212, 320 or the equivalent.

309 Intermediate Conversation & Composition (3) Designed to improve proficiency in oral and written communication in Portuguese. Prereq: 212, 320 or the equivalent.

315-316 Aspects of Luso-Brazilian Literature (3,3) Luso-Brazilian literature through literary theory and history of literature. Prereq: At least one course at the 300 level or the equivalent. (Same as Latin American Studies 315-316.

400 Portuguese for Speakers of Another Romance Language (3) Accelerated course for students 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 course or equivalent.

409 Advanced Conversation & Composition (3) Formal and structured conversation on contemporary topics (business, politics, economics, religion, culture) and formal writing practice at an advanced level. Prereq: 309 or the equivalent.

431-432 Topics in the Language & Literature of the Portuguese-speaking World (3,3) Outstanding works of literature and culture from the countries where Portuguese is spoken. Topics may vary. Maximum 12 hours. Prereq: At least one course at the 300 level or the equivalent. (Same as Latin American Studies 431-432.

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For Language and World Business majors only. S/N only.

491 Foreign Study (1-15)

493 Independent 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) Open to University Honors Students and to students with ACT's of 29 or higher (or SAT equivalent). 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. F, Sp


300 Child Psychology (3) The normal child from conception through infancy, childhood, and adolescence. Physical, cognitive, social, and emotional development. Prereq: 110. E

310 Learning and Thinking (3) Survey of theory and findings of research concerning both human and nonhu-mins. Prereq: 110, F, Sp

320 Motivation (3) Survey of theories and related research concerning the role of motivation in the human personality. Prereq: 110. F, Sp

330 Abnormal Psychology (3) Individual and environmental factors in deviant and maladaptive behavior; neurotic and psychotic reactions. Contemporary methods of treatment. Prereq: 110, E
RECREATION AND TOURISM MANAGEMENT (584)

201 Recreation and Tourism Foundations and Leadership (3) Introduction to the theories, recreation and tourism focusing on understanding concepts, philosophical, and professional practices in the leisure service industry. Prerequisites: Theories and practices of recreation leadership. F, Sp

290 Practicum in Recreation and Tourism Management (2-3) Supervised practice in approved agencies offering programs in recreation and tourism. Each hour of credit requires 40 clock hours of work. For majors only. Prerequisite: Permission of instructor. SNC only. E

310 Development and Evaluation of Recreation and Tourism Programs (3) Essential elements and principles of various types of recreation and tourism programs. Emphasis on development of program objectives. Practical and comprehensive program design and evaluation for popular programs in the leisure service facility within student's area of interest. Prerequisite: RTM 110, Junior standing. GPA required for admission to major. F. A-F, Sp Su

320 Therapeutic Recreation and Special Populations (3) Principles, concepts, historical development of recreation, therapeutic recreation, and leisure services for special populations. Explanation of legislation, attitudes, behavior of individuals, mainstreaming, advocacy, as related to leisure fulfillment. Prerequisite: Consent of instructor. F

325 Therapeutic Recreation and Lifestyle Planning (3) Emphasis on how therapeutic recreation specialists can use the principles of healthy lifestyle planning to treat mental retardation, chemical dependency. Class conducted totally in group. This course is a prerequisite for 226.

326 American Sign Language I (3) Expressive and receptive skill development in sign communication. Prerequisites: Permission of instructor. TLM and/or SP only. F, Sp

330 Therapeutic Recreation Programming (3) Principles and practices of therapeutic recreation services for individuals with disabilities. Prerequisite: Consent of instructor. F

335 Sign Language Interpretation (3) Interpreting from sign language to English in a variety of physical settings. Prerequisite: Consent of instructor. F

340 Principles of Interpreting (3) Theory and psycholinguistic processes involved in interpreting and transliterating between English and American Sign Language. Ethics and etiquette of interpreting in educational and community placements. History, organization, certification procedures, trends and issues related to the interpreting profession. Prerequisite: Consent of instructor. F

350 Voice to Sign Interpretation (3) Interpreting from sign language to English in a variety of physical settings. Prerequisite: Consent of instructor. F

355 Sign Language to Voice Interpretation (3) Interpreting from sign language to English in a variety of physical settings. Prerequisite: Consent of instructor. F

410 Management Concepts of Recreation, Tourism and Sport Programs (3) Principles for operationalizing recreation, tourism and sport related programs. Units address, utilizing research as a management tool, assessing program costs, facility utilization and evaluation and contemporary management concepts. Prerequisites: RTM 110, 310 or consent of instructor. A-F, F

415 Development and Maintenance of Recreation, Tourism and Sport Programs (3) Principles of designing, planning, executing and maintaining various facilities. Elements of risk management and safety in the recreation and sport program design process. Prerequisite: RTM 310, or consent of instructor. F

420 Principles of Therapeutic Recreation (3) Principles and practices of therapeutic recreation, including activity analysis, activity and program selection, individual and program assessment, teaching process, and professional issues. Prerequisites: 320 or consent of instructor. F

425 Therapeutic Recreation Programming (3) Principles and practices of therapeutic recreation programming for individuals with various abilities. Focus is on the social, interpersonal, and behavioral aspects of working with individuals in inclusive therapeutic recreation programs. Includes lab. Prerequisites: Consent of instructor. Sp

430 Organization and Administration of Leisure and Tourism Services (3) Principles of administration applied to public, private and/or commercial enterprises. Organizational structures, personnel management, evaluation, legal and ethical aspects. Introduction to budgeting and fiscal procedures. Prerequisites: Consent of instructor. F, Su

440 Dimensions of Commercial Recreation and Tourism Enterprises (3) Organizational structures, delivery systems, financing private enterprises and operating selected products and services offered by public and/or commercial enterprises. Organizational structures, personnel management, evaluation, legal and ethical aspects. Introduction to budgeting and fiscal procedures. Prerequisites: Consent of instructor. F, Sp

450 Special Topics in Leisure Education and Tourism Development (1-4) Development of special topics in recreation/therapeutic recreation and tourism. A-F. May be repeated.

470 Tourism and Leisure Industries (3) An examination of the relationship between tourism and various sectors. Emphasis on the application of healthy lifestyle, both natural and developed, and the economic impact of these ventures. Sociocultural impacts upon the venue and how the venue impacts the local population. Prerequisite: Consent of instructor. F, Sp

490 Internship in Recreation and Tourism Management (12) Full time, supervised practice in approved recreation and tourism management agency. Emphasis on supervised and self-directed procedures. Prerequisites: RTM 290, all 300 level RTM courses, Senior Standing. GPA required for major. SNC. E

492 Directed Independent Studies in Recreation and Tourism Management (1-3) May be repeated.

REHABILITATION AND DEAFNESS (855)

223 American Sign Language I (3) Expressive and receptive skill development in sign communication. Video text and interactive teaching method used. Class conducted totally in sign. This course is a prerequisite for 226.

226 American Sign Language II (3) Expressive and receptive skill development in sign communication. Video text and interactive teaching method used. Class conducted totally in sign. This course is a prerequisite for 226.

340 Principles of Interpreting (3) Theory and psycholinguistic processes involved in interpreting and transliterating between English and American Sign Language. Ethics and etiquette of interpreting in educational and community placements. History, organization, certification procedures, trends and issues related to the interpreting profession. Prerequisite: Consent of instructor. F

350 Voice to Sign Interpretation (3) Interpreting from sign language to English in a variety of physical settings (one-to-one, classroom, assemblies) for students of all ages with varying communication styles. Adjusting interpretation to accommodate different student needs. Cross-cultural communication issues interpreting in a manner appropriate to the context: techniques for reducing visual fatigue and overload.

355 Sign Language to Voice Interpretation (3) Interpreting from sign language to English in a variety of physical settings (one-to-one, classroom, assemblies) for students of all ages with varying communication styles. Selecting appropriate to the context. Attention is also given to cross-cultural components of communication. Prerequisite: Consent of instructor. F

410 Practicum With Hard of Hearing (3) Supervised practicum with hard of hearing students in pre-school, public school, and/or residential school setting. Sp

415 Language Development of Deaf/Hard of Hearing (13) Language problems of hearing impaired contrasted with scope and sequence of normal language development. Formal linguistic systems used to describe language development problems. F

416 Language Development of Deaf/Hard of Hearing II (3) Developmental and remedial systems of teaching language to hearing impaired children. Prerequisites: Consent of instructor. F

424 Nature of Hearing Impairments (3) Anatomy and physiology of hearing and causes of hearing loss; methods and instrumentation for assessment of hearing level; interpretation of audiologic services to medical and other professionals. F

425 Introduction to the Psychology and Education of the Deaf/Hand of Hearing (3) Primarily for those planning to teach the hearing impaired. Research related to psychology, social adjustment, communication methodologies, language development and education of the hearing impaired. Survey of literature. Visits to programs.

431-432 American Sign Language III and IV (3,3) Sequence stresses fluency of expressive and receptive sign communication skills. Using language in context is emphasized. Grammar structures of ASL, and cultural implications of the deaf community. Must be taken in sequence. Prerequisite: For 431: Consent of instructor. Prerequisite: For 432: Consent of instructor.

433 Directed Independent Study (1-3) Tutorial and specialized area. Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours. SNC or letter grade.

RELIGIOUS STUDIES (863)

101 World Religions in History (3) Introduction to religion in culture and society, including examination of religious traditions from ancient to medieval. Writing-emphasis course.

110 The Comparison of World Religions (3) Introduction to religion in culture and society, focusing on cross-cultural interpretation and the treatment of common problems and themes within religious traditions. Writing-emphasis course.

232 Varieties of Religious Community (3) How different forms of religious communities (sects, tribes, sects, nations, churches, denominations, families) have sought to reject, reinforce, transform, and/or dominate their culture and society. (Same as Sociology 232.)

300 Ways of Understanding Religion (3) Sources and methods used in the study of religion and religions; analysis of the concepts and uses of religion. (Same as Anthropology 300.)

305 Modern Religious Thought (3) Major themes, theories, and thinkers of nineteenth and twentieth century religion. Variable content. May be repeated. Maximum 6 hours.

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 an emphasis on those concerning the Exodus, Davidic kingship, and Zion in a synoptic light. Writing-emphasis course. (Same as Judaic Studies 311.)

312 Religious Aspects of Biblical and Classical Literature (3) The religious meaning of the literary modes of biblical study enhance appreciation of biblical and classical material. Ways in which the western literary tradition has appropriated and reconstituted the biblical and classical heritage. Writing-emphasis course. (Same as Judaic Studies 312.)

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.

315 Reformation Europe, 1500-1650 (3) (Same as History 315.)

319 Sociology of Religion (3) (Same as Sociology 319.)

320 Women and Religion (3) Concepts of gender in religious traditions, social, and psychological dimensions of gender denominations, symbols (e.g., the Godhead, God the Father) that shape women and men's experiences; contemporary feminist discussions of ways in which religious have liberated and oppressed women. (Same as Women's Studies 320 and Sociological Studies 320.)


493 Directed Study (1-3) Individual problems for junior and senior students. May be repeated. Maximum 9 hours. Prereq: Junior or Senior standing and consent of the instructor.

495 Special Topics (3) Topics in retail and consumer sciences. May be repeated. Maximum 9 hours. Prereq: Junior or Senior standing and consent of instructor.

497-408 Honors: Retail and Consumer Sciences (3) Individual problems for junior and senior students showing special ability and interest in retail and consumer sciences. Prereq: Recommendation of Department Head.

RURAL SOCIOLOGY (880)

380 Rural Sociology (3) Topics include the analysis of U.S. land tenure systems, agricultural regions, rural minorities, Amish, farmer organizations, rural institutions, community decision making, local government, rural policy issues, rural industrialization, food policy, and cross-cultural analysis. Prereq: Sophomore standing. F (Same as Sociology 880).

480 Technological and Community Change (3) Analysis of community change processes within which new technology spreads within a farm population and analysis of social institutions related to change in rural communities. Prereq: 380 or consent of instructor. (Same as Sociology 480). Sp.

RUSSIAN (886)

101-102 Elementary Russian (4,4) Must be taken in sequence.

199 Russian Language and World Business (2) This course 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 Arts and Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students in the Language and World Business program. See the Director for further information. F

201-202 Intermediate Russian (4,4) Must be taken in sequence.

221 Rebels, Dreamers and Fools: The Outcast in 19th Century Russian Literature (3) Texts in English translation. No foreign language credit. Writing-emphasis course.

222 Heaven or Hell: Utopias and Dystopias in 20th Century Russian Literature (3) Texts in English translation. No foreign language credit. Writing-emphasis course.


311-312 Russian Composition and Conversation (3,3) Practice in writing and speaking; grammar review and vocabulary building. Prereq: Completion of 202.

325 Russian Film (3) A study of Russian cinema from the earliest days to the present. Writing-emphasis course. (Same as Cinema Studies 325.)

371 Martyrs, Mobs, and Madmen in Russian Culture: 988-1861 (3) Explores various aspects of Russian music, art, and literature, emphasizing violent cultural clashes that produced extreme artistic reactions. Texts in English translation. Writing-emphasis course.

372 Eros, Death and Resurrection in Modern Russian Culture (3) Examines the obsession with death and placement that underlay the intellectual and cultural ferment of 19th Century Russian music, art, and literature. Texts in English translation. Writing-emphasis course.

401-402 Advanced Grammar, Conversation, and Composition (3,3) Prereq: 312 or equivalent. (Same as Russian and East European Studies 401-402.)

SCIENCE EDUCATION (899)

352 Field Experiences in Teaching: Secondary (1) Field experiences in tasks related to teaching and teacher roles. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. E, F, Sp.

353 Field Experience in Teaching: Secondary (I) Field experiences in tasks related to teaching and teacher roles. Prereq: 352 and admission to Teacher Education Program. Satisfactory/No Credit only.

493 Independent Study (1-3) Topics to be assigned. May be repeated. Maximum 12 hours. E

494 Supervised Readings (1-3) Topics to be assigned. May be repeated. Maximum 12 hours. E

495 Special Topics (1-3) Topics to be assigned. May be repeated. Maximum 12 hours. E

496 Teaching Science Grades 7-12 (3) Methods, materials, recent trends in science and environmental education programs for secondary schools. Prereq: Admission to Teacher Education Program. F

SOCIAL SCIENCE EDUCATION (900)

454 Teaching Strategies and Issues in Social Studies Education (3) Goals, objectives, techniques, materials and evaluation; directed observation in public schools; preparation of a comprehensive lesson plan and evaluation; simulated teaching experiences. Prereq: Admission to Teacher Education Program. F

SOCIAL WORK (905)

200 Introduction to Social Work (3) Emergence of the social work profession; professional mission; knowledge, 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.


493 Independent Study (1-15) Prereq: Consent of instructor.

494 Supervised Readings (1-15) Topics to be assigned. May be repeated. Maximum 12 hours.

495 Special Topics (1-15) Topics to be assigned. May be repeated. Maximum 12 hours.

496 Teaching Science Grades 7-12 (3) Methods, materials, recent trends in science and environmental education programs for secondary schools. Prereq: Admission to Teacher Education Program. F

SOCIOLOGY (915)

110 Social Problems and Social Change (3) Increasing crime and intense problems such as alcoholism, violence, crime, inequality, lifestyle preferences, and environmental abuse within the context of social change. Assessment of control strategies.

120 General Sociology (3) Major concepts and theoretical approaches of sociology with emphasis on culture, socialization, social organization, and social stratification.

200 Sociological Analysis (3) Selected 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 and either Sociology 110 or 120 or consent of instructor.

220 Interpersonal Communication (3) (Same as Speech Communication 220.)

232 Varieties of Religious Community (3) (Same as Religious Studies 232.)
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<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>445</td>
<td>Latin American Film and Culture (3)</td>
<td>Explores Latin American and Latin/a films and videos from 1950s to present as works of art and in light of political, cultural, and social contexts. Taught in English. Not available for major credit. 1 hour lecture, 2 hours screening, and class discussion. Writing-emphasis class. (Same as Latin American Studies 465 and Cinema Studies 485.)</td>
</tr>
<tr>
<td>471</td>
<td>Latin American Civilization (3)</td>
<td>Latin America's diverse heritage and major social and political institutions. Prerequisite: Consent of department. Writing-emphasis course. (Same as Latin American Studies 471.)</td>
</tr>
<tr>
<td>473-474</td>
<td>Survey of Spanish American Literature (3,3)</td>
<td>Survey from the Conquest to the late 19th century. 473-474: Major literary movements, writers and works of the 20th century. Prerequisite: 335, 336 or equivalent. (Same as Latin American Studies 473-474.)</td>
</tr>
<tr>
<td>479</td>
<td>Social Protest Literature of Latin America (3)</td>
<td>Literature as a means of unmasking social ills that have tradition in Latin America. Among major themes: indigenous, Black literature, Latin American writers, the role of the writer in Latin American society. Prerequisite: 335, 336 or equivalent. (Same as Latin American Studies 479.)</td>
</tr>
<tr>
<td>490</td>
<td>Internship (1-15)</td>
<td>Career-related experiences in the United States or abroad with permission of the Language and World Business Director. Full course credit in and World Business majors only. Satisfaction/No Credit only.</td>
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<tr>
<td>493</td>
<td>Independent Study (1-15)</td>
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**SPECIAL EDUCATION (932)**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>310 (Same as French 425, German 425, Russian 425 and Linguistics 425.)</td>
<td>Special Education Principles (3)</td>
<td>Introduction to the field of special education, including the nature and causes of disabling conditions, family/systems, a history of the field, current policies. Prerequisite: Admission to Teacher Education Program. Sp</td>
</tr>
<tr>
<td>320</td>
<td>Special Education Strategies (3)</td>
<td>Introduction to basic special education procedures, including formal and informal assessment, planning, development of individual education plans, applied behavioral analysis, appropriate medical procedures, and effective instructional strategies. Prerequisite: 310, admission to Teacher Education Program.</td>
</tr>
<tr>
<td>410</td>
<td>Psychology and Education of Students with Mild Disabilities (6)</td>
<td>Nature and characteristics of persons with mild handicaps and the educational approaches appropriate for these persons. Prerequisite: 310, 320 and Admission to Teacher Education Program. Coreq: 420. F</td>
</tr>
<tr>
<td>420</td>
<td>Field Experience in Modified Programs (3)</td>
<td>Practition in teaching in modified programs: planning, developing, implementing, and evaluating instruction. Prerequisite: 310, 320, and admission to Teacher Education Program. Coreq: 420. Satisfactory/No Credit only. F</td>
</tr>
<tr>
<td>431</td>
<td>Field Experience in Comprehensive Programs (3)</td>
<td>On-site teaching experience with moderately and severely handicapped children and youth. Prerequisite: 310, 320, and Admission to Teacher Education Program. Sp</td>
</tr>
<tr>
<td>445</td>
<td>Education of the Gifted and Talented Children (3)</td>
<td>Psychometric and behavioral studies of giftedness. Analysis of past and present school practices in reference to curriculum and program implementation. Prerequisite: Admission to Teacher Education Program.</td>
</tr>
<tr>
<td>446</td>
<td>Speech and Language Basis of Learning Disabilities in the Classroom (3)</td>
<td>Normal communication development; understanding of speech and language impairments in school-age students; integration of oral/written communication skills into existing curriculum, especially for high incidence special education students. Sp</td>
</tr>
<tr>
<td>470</td>
<td>Psychology of the Exceptional Child (3)</td>
<td>General characteristics and educational needs of exceptional children. Implications and variations for functioning as adults. Enrollment limited to non-education majors.</td>
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**SPEECH COMMUNICATION (943)**

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<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>100</td>
<td>Introduction to Speech Communication (3)</td>
<td>Fundamentals of public address, including the preparation and delivery of informative and persuasive speeches. Topics include research, organization, adapting to an audience, topic selection, reasoning, and evaluating the discourse of others.</td>
</tr>
<tr>
<td>107</td>
<td>Honors: Introduction to Speech Communication (3)</td>
<td>Exploration of the fundamental theories and principles of speech communication. Admission by consent of the department.</td>
</tr>
<tr>
<td>210</td>
<td>Public Speaking (3)</td>
<td>Preparation and delivery of informative and persuasive speeches. Topics include research, organization, adapting to an audience, topic selection, reasoning, and evaluating the discourse of others.</td>
</tr>
<tr>
<td>220</td>
<td>Interpersonal Communication (3)</td>
<td>Process by which, thoughts, feelings, and actions affect and are affected by the face-to-face communication situation. (Same as Sociology 220.)</td>
</tr>
<tr>
<td>230</td>
<td>Listening (3)</td>
<td>Study of the principles and techniques of listening. Focuses on theoretical and practical listening skills.</td>
</tr>
<tr>
<td>240</td>
<td>Business and Professional Communication (3)</td>
<td>Basic principles of communication within organizations. Topics and activities may include organizational communication, group problem solving, case studies, interviewing, and formal presentations.</td>
</tr>
<tr>
<td>250</td>
<td>Advanced Public Speaking (3)</td>
<td>Theory and practice of informative and persuasive speaking within organizations. Prerequisite: 210 or 240.</td>
</tr>
<tr>
<td>260</td>
<td>Communication and Society (3)</td>
<td>Study of communication strategies and public opinion, with emphasis on communication in news media: posters, film, song, demonstration, drama, and public address.</td>
</tr>
<tr>
<td>270</td>
<td>Argumentation and Debate (3)</td>
<td>Reasoned decision-making with emphasis on evidence, reasoning, evaluation, and refuting arguments.</td>
</tr>
</tbody>
</table>

**Courses of Instruction**
491 Foreign Study (1-15) See description of major concentration. Prereq: Junior/Senior standing with at least a 3.0 GPA; consent of supervising faculty member and Department prior to registration (see Department for proposal deadlines). May be repeated to a maximum of 15 hours.

492 Off-Campus Study (1-15) See description of major concentration. Prereq: Junior/Senior standing with at least a 3.0 GPA; consent of supervising faculty member and Department prior to registration (see Department for proposal deadlines). May be repeated to a maximum of 15 hours.

493 Independent Study (1-15) See description of major concentration. Selected readings/research in an area of special interest to be determined by the student in consultation with supervising faculty member and, ordinarily, in an area of study not covered by departmental offerings. Prerequisites: Sport Management major; min. 2.5 GPA and Sport Management 250 or consent of instructor. E

415 Development and Maintenance of Leisure, Sport, and Tourism Services (3) (Same as Recreation and Tourism Management 415.)

440 Sport Marketing (3) Application of fundamental marketing concepts to sport industry. Marketing research, promotions, fund raising, advertising, and assessment of marketing programs specific to sport will be covered. The historical development of sport marketing will be included. Prereq: Marketing 301 and admission to Sport Management major. Admission by consent of instructor.

490 Legal Aspects of Sport (3) Identification and application of various areas of law to sport industry includes how consulting law, anti-trust law, and tort law impact sport management decisions. Special emphasis placed on discrimination in sport (e.g., race, gender, disability). Prereq: Progression (admission) to major; min. 2.5 GPA, Sport Management 350, or consent of instructor.

490 Sport Management Internship (6, 12) Supervised work experience at an appropriate facility. Emphasis on managerial tasks and administrative procedures. S/N only. Prereq: Progression (admission) to major; min. 2.5 GPA; completion of all 200 level Sport Management course requirements; senior standing; enrollment two semesters (6 hours each) or full-time semester (12 hours). Total 12 hours required.

493 Directed Independent Studies (1-15) Independent study in a specialized area of sport management. May be repeated. Maximum of 9 hours. Prereq: Progression to Sport Management major. E

STATISTICS (962)


252 Regression and Correlation Methods (3) Simple linear regression and correlation analysis, time series analysis, multiple regression, variable selection, regression diagnostics, polynomial regression, and categorical data analysis techniques. Use of statistical computing software. Applied course appropriate for a general audience. Prereq: 251 or 251-E

320 Regression and Correlation Methods (3) Simple linear regression and correlation analysis, time series analysis, multiple regression, variable selection, regression diagnostics, polynomial regression, and categorical data analysis techniques. Use of statistical computing software. Applied course appropriate for a general audience. Prereq: 251 or 251-E

330 Experimental Methods (3) Strategies of experimental design and analysis. Factorial and fractional factorial experiments, sequential experimentation, blocking and run order restrictions, Taguchi's strategies to reduce variation. Use of statistical computing software. Applied course for a general audience. Prereq: 251 or 251-E

365 Statistical Process Control (3) Concept of special and transferable control charts. Use of statistical process control in a manufacturing environment. Use of statistical computing software. Applied course appropriate for a general audience. Prereq: 251 or 251-E


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

492 Internship (1-6) Supervised off-campus experience in application of statistical principles and methods in business, industry, or government, culminating in a written annual report. Prereq: Permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. Satisfactory/No credit only. May be repeated. Maximum 6 hours.

493 Independent Study (2-6) Faculty directed reading and investigation of specified topic in probability or statistics culminating in a written report. Prereq: Two courses in statistics and permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. Letter grade or Satisfactory/No credit. May be repeated. Maximum 6 hours.

TEXTILE SCIENCE (970)

220 Selection and Use of Soft Goods for Interior Design (3) Study of textile products for apparel and interior furnishings; emphasis on the selection of fibers, yarns, fabrics, finishes and construction details to optimize properties needed for particular uses.

THEATRE (976)

100 Introduction to Theatre (3) Understanding theatre: thought, philosophy, aesthetics, and production practice. Basic emphasis course.

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. Prereq to 221: 220.

245 Basic Stage Costuming (3) Costume design and construction; basic theory and technique. Production participation required.

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 instrumentation as it relates to lighting and sound production. Emphasis on hands-on skills in technical, electrical, and stage areas.

310 Theatre History I (3) History and literature of theatre. Drama in performance with particular emphasis on major trends and movements from Antiquity to the Restoration.

311 Theatre History II (3) History and literature of Theatre. Drama in performance with particular emphasis on major trends and movements from the Restoration to the present.
451 Advanced Scenery Technology II (3) Study and practice of metalworking and plastics 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.


456 Rendering (3) Techniques in monochrome and full color illustration of space and form. Some acquaintance with basic mechanical perspective and freehand sketching is assumed.

462 Advanced Lighting Design (3) Advanced problems in lighting design and theory including areas such as lighting musical theatre, opera, and dance. Prereq: 362 or consent of instructor.

464 Computer Assisted Design for Theatre (3) Advanced techniques in computer assisted design for theatre. Work with CAD, Computer Drawing, Graphics, and 3D Modeling software for preparation of theatrical designs. Specific content varies with semester. Admission by consent of instructor only. May be repeated. Maximum 9 hours.

470-471 Playwriting (3,3) Advanced instruction in the writing of plays. Prereq: Consent of instructor.

483 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 for departmental productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

483 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.

491 Foreign Study (1-15) 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 (1-15) 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 (1-15) Open to any undergraduate honors student. Must be used by all University Honors Scholars preparing their senior projects. Proposals must be approved in advance. See the Director of University Honors for further information. Letter grade only.

THEORY AND PRACTICE IN TEACHER EDUCATION (978)

201 Field Study in Education (1-3) Problems of persons in active service in the field. Includes methods of teaching, curriculum materials, school-community relationships and school organizations. May be repeated. Maximum 6 hours.

492 Directed Independent Study (1-3) Tutorial and specialized area. Prereq: consent of instructor. May be repeated. Maximum 6 hours. Satisfactory/No Credit grading or letter grade.

493 Independent Study (1-15) Topics to be assigned. May be repeated. Maximum 12 hours.

493 Special Topics (1-3) Topics to be assigned. May be repeated. Maximum 12 hours.

UNIVERSITY HONORS (983)

117-127 Honors Freshman Seminar (1,1) Sequence required of all freshman honor students. 117 concentrates on computer skills, contemporary issues, and writing. 127 concentrates on critical thinking, contemporary issues, and international studies. Satisfactory/No Credit grading only.

337 Honors: Concentration in the Humanities (3) Small group studies of selected topics, issues or problems with a concentration in the humanities disciplines. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

338-348 University Scholars Seminar (1,1) Selected topics, enrollment limited to students in The University Honors Program, or with permission of the Director of University Honors. May be repeated. Maximum 6 hours.

347 Honors: Concentration in the Social Sciences (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.

485 Applied Theatre: Management (2) Laboratory in theatre management for departmental productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

486 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.

486 Applied Theatre: Scenery (2) Laboratory in scenic design for departmental productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

486 Applied Theatre: Costumes (2) Laboratory in costume design for departmental productions. Credit available to Theatre majors only or with consent of instructor. 90 hours of work required.

491 Foreign Study (1-15) 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 (1-15) 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 (1-15) Open to any undergraduate honors student. Must be used by all University Honors Scholars preparing their senior projects. Proposals must be approved in advance. See the Director of University Honors for further information. Letter grade only.

UNIVERSITY STUDIES (984)

101 Lives and Times (3) Study of biography, autobiogra-phy, and biographical theory including factors that shape individual lives. Writing emphasis. Intended for entering students.

210-220 Special Topics in University Studies (1-9, 1-9) Interdisciplinary approaches to selected topics for lower division students. Small group discussion of viewpoints that transcend the boundaries of a single discipline. Writing intensive and team taught. May be repeated maximum 9 hours. Permission of instructor required. Variable credit.

311 AIDS and Society (3) Speakers from across the state speak about scientific, social, medical, emotional and financial aspects of acquired immune deficiency syndrome. Students are required to participate in some AIDS related community activity and to describe that activity in writing.

321 Aging and Society (3) Multidisciplinary examination of the process of aging and the medical and community resources available for coping with its stresses and challenges.

322 Technology, Society and the Community (3) Explores philosophical and religious systems with a commitment to stewardship of the planet and those with an anthropocentric or neutral perception of the natural world. Systems are presented in conjunction with cultural and aesthetic perspectives on the state of the natural world and values.

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 Honors Program. Taught by faculty from within the University (open team-taught). Discussion based and writing intensive. May be repeated. Maximum: 9 hours.
441 Art and Organism (3) Interdisciplinary investigations of the relationship between art and biology. Readings and discussions focus on the idea that, while art is one of the most wholly human cultural endeavors, it is undeniably linked to, if not emergent from, our basic biology.

412 Normandy Scholars Seminar: War and Remembrance (3) Enrollment is limited to students selected for the Normandy Scholars Program. The course has three components: the social and political history of 20th century France, and World War II—Commemoration and Memorization. The course is taught by members of various departments, and is preparation for four weeks of study in Normandy during the Summer Term.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

**URBAN STUDIES (985)**

200 Human-Environment Systems (3) (Same as Interior Design 200.)

250 Introduction to Urban Studies (3) Introductory survey of urban studies courses with an interdisciplinary team of urban studies faculty. May be repeated. Maximum 6 hours.

321 Urban Politics and Process (3) (Same as Political Science 321.)

323 Behavioral Geography (3) (Same as Geography 323.)

350 Practicum in Urban Studies (3) Advanced study of urban processes. Written assignments and hands-on experience in an organization which is working for urban change.

363 The City (3) (Same as Sociology 363.)

401 The City in the United States (3) (Same as Planning 401.)

402 Survey of Planning (3) (Same as Planning 402.)

414 Urban Geography (3) (Same as Geography 414.)

450 Directed Field Work (3) (Same as Geography 450.)

451 Urban Politics and Process (3) Guest lecturers, student presentations, and an interdisciplinary seminar. May be repeated. Maximum 6 hours.

456 Senior Seminar (3) A capstone seminar taught by an interdisciplinary team of urban studies faculty. May be repeated. Maximum 6 hours.

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.)

493 Independent Study (3) (Same as Sociology 493.)

4200 Topics in Urban Studies (1-15) May be repeated. Maximum 6 hours.

**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. Prereq: English 102 and Speech 210 or 240 or consent of instructor.

350 Wildlife Damage Management (3) Principles and methods for wildlife damage management. Emphasis on the socioeconomic aspects of wildlife damage. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. Sp

440 Wildlife Techniques (2) Methods in wildlife management. Prereq: FWF 317 or consent of instructor. 1 hour and 1 lab. Sp

442 Fisheries Techniques (3) Active and passive sampling techniques for fish and aquatic organisms; population estimation methods; fish handling and transport; food habits and dietary analysis; age determination and annual growth analysis; stream assessment; equipment and instrumentation usage and maintenance; fish habitat sampling methods. Weekend field trip may be required. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. Sp

443 Fisheries Science (3) Quantification and management of freshwater fisheries including population estimation, age determination, and stocking. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. Sp

444 Ecology and Management of Wild Mammals (3) Biological and ecological characteristics of game mammals and endangered mammals. Current principles and practices of wildlife management. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. One weekend field trip required. Sp

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: FWF 317 or consent of instructor. 2 hours and 1 lab. One weekend field trip required. Sp

460 Ethics in Wildlife and Fisheries Management (1) Ethical bases for decision-making and application of ethics in the practice of wildlife and fisheries management. Enrollment limited to students interested in wildlife and fisheries management. Preregistration by consent of instructor. 1 hour. Sp

493 Independent Study in Wildlife and Fisheries Science (1-15) Special research or individual problem in wildlife and fisheries science. Letter grade or Satisfactory/No Credit. E

496 Internship in Wildlife and Fisheries Science (1) Internship experiences supervised by departmental-approved placement located in one of the 50 states. Prereq: FWF 317 or consent of instructor. 1 hour. Sp

**WOMEN'S STUDIES (994)**

210 Images of Women in Literature: Biography and Autobiography (3) Introduction to women's journals, diaries, and autobiographies. Writing emphasis course.

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). Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. Sp

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, and factors which have encouraged women's role in society. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. Sp

230 Marriage and Family: Roles and Relationships (3) (Same as Child and Family Studies 230.)

310 Emergence of the Modern American Woman (3) Role of women in the development of American civilization. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. Sp

320 Women and Religion (3) (Same as Religious Studies 320 and Judaic Studies 320.)

330 Women in Music (3) (Same as Music History 330.)

332 Women in American Literature (3) (Same as English 332.)

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.

360 Women in Cross-Cultural Perspective (3) A study of the changing role of women in various contemporary cultures; industrial democracies, developing nations, communist countries. A team-taught course with guest lectures and slide presentations.

375 Gender in Society (3) (Same as Sociology 375.)

382 Philosophy of Feminism (3) (Same as Philosophy 382.)

383 Women in the Greek and Roman World (3) (Same as Classics 383.)

400 Topics in Women's Studies (3) Content varies. May be repeated.

410 Sex Role Development: Implications for Education and Counseling (3) (Same as Educational and Counseling Psychology 410.)

422 Women Writers in Britain (3) (Same as English 422.)

423 Women's Health (3) (Same as Health 423.)

432 Women in European History (3) (Same as History 432.)

433 Literary Portraits of French Women (3) (Same as French 433.)

434 Psychology of Gender (3) (Same as Psychology 434.)

435 Women in American History (3) (Same as History 435.)

466 Rhetoric of the Woman's Rights Movement to 1930 (3) Historical and critical study of public address in the campaign for women's rights in the United States from the 1930s through the 1960s. Prereq: Speech Communication 466. Writing emphasis course.


476 Rhetoric of the Contemporary Feminist Movement (3) Historical and critical study of rhetoric in the campaign for women's rights in the United States from the 1940s to the present. Prereq: Speech Communication 476. Writing emphasis course.

480 African-American Women in American Society (3) (Same as African and African-American Studies 480.)

481 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15) Registration by consent of chair of Women's Studies.
Honors and Awards

HONORARY AND PROFESSIONAL SOCIETIES

A number of honorary and professional societies have chapters at The University of Tennessee, Knoxville. Membership in these organizations is generally based on the initiate’s good character, professed interest in the chosen field, leadership characteristics, and high scholastic record.

Those honorary societies, both national and local, with chapters at UT Knoxville are:

Alpha Chi Sigma, for chemical engineering and chemistry students. Student must have a grade point average of 2.5 in chemistry and/or chemical engineering combined and 2.5 in all academic work and must have been enrolled in this school for at least one semester. Members are elected by others in the local chapter.

Alpha Epsilon Delta, for students preparing for study in medicine. Students with a minimum 3.0 average in all courses may be pledged at the end of their first year in the University. They also may be initiated in the next year if an appropriate overall average has been maintained.

Alpha Kappa Psi, Professional business fraternity for entering freshmen and transfer students in the College of Business Administration with a minimum cumulative GPA of 2.75 on a 4.00 scale.

Alpha Lambda Delta, An academic honor society for freshmen who have a 3.5 GPA carrying a full load. The purpose is to encourage superior scholastic achievement among students in their first year in institutions of higher education, to promote intelligent living and a continued high standard of learning, and to assist men and women in recognizing and developing meaningful goals for their roles in society.

Alpha Mu Chapter, Eta Sigma Gamma. Students with a major or minor in health and safety are eligible for membership. All undergraduate candidates for membership must have a 2.5 cumulative average, and each graduate candidate must have graduated with a 2.7 cumulative average or must have a 3.4 graduate scholastic average.

Alpha Pi Mu, for industrial engineering students. Prospective members are chosen from the upper one-third of the senior class and upper one-fifth of the junior class. A minimum 2.5 average is required.

Alpha Zeta, agricultural fraternity for juniors and seniors. Prospective members must be among the upper two-fifths of their respective classes and must show leadership ability.

Beta Alpha Psi, for accounting students. Any undergraduate or graduate accounting major registered in advanced accounting subjects and having a minimum B-minus average in all subjects, is eligible for active membership.

Beta Gamma Sigma, national business honorary society for undergraduate students with a major in a College of Business Administration curriculum. Additional criteria pertain to number of business administration credit hours taken and number of transfer hours/previous academic performance for transfer students. MBA students must be in the top 20 percent of graduating class, and DBA students must complete all degree requirements with a minimum GPA of 3.50.

Chi Epsilon, for civil engineering students. Junior and senior civil engineering majors ranking in the highest one-third of their respective class are eligible for membership.

Delta Mu, for transportation students. Prospective members must have completed the basic transportation courses and have a minimum 2.3 average.

Delta Pi Epsilon, for business education graduate students. Prospective members must have a minimum 3.4 average for nine hours of graduate work in business education. Candidates are required to show evidence of their scholarship before initiation by presenting a talk, research abstract, or written paper to the group.

Delta Sigma Pi, professional business fraternity for students enrolled in the College of Business Administration. A minimum of 15 semester hours of University credit with a scholastic average of at least 2.75 is required for initiation.

Delta Theta Phi, for law students.

Delta Kappa Nu, for electrical engineering students. Members may be selected from juniors ranking in the upper one-fourth, or seniors ranking in the upper one-third of their respective electrical engineering class.

Eta Sigma Gamma. Open to undergraduate and graduate majors in Health Science/Health Education with a minimum GPA for undergraduates of 2.5 and graduates of 3.0. The purpose is to further the professional competence and dedication of individual members and for health science/health education discipline and the promotion of the discipline.

Eta Sigma Phi, honor society for students in classical languages. Membership is open to students who have attained at least a 3.0 average in Latin or Greek courses.

Gamma Beta Phi, scholastic honor, educational-service organization open to students in all fields of study. Prospective members, usually inducted in the fall and spring, must have completed 15 hours of study, must rank in the upper 20 percent of their respective college, and must have a minimum of 3.2 overall average.

Gamma Sigma Delta, agricultural honorary society for graduating seniors, graduate students, faculty, and agricultural alumni. Seniors selected must be in the upper one-fourth of their graduating class in the College of Agriculture and must have attained at least a 3.5 average in at least 16 hours toward the advanced degree. They must have shown promise or superior ability in carrying on advanced study and/or research directly concerned with agriculture and of making worthy contributions to their respective fields.

Golden Key National Honor Society. Students of junior status with a cumulative GPA of 3.5. The purpose is to recognize outstanding undergraduate scholarship in all colleges of UT.

Iota Lambda Sigma, for industrial education students. No one may be initiated until he has acquired a minimum of 9 hours of industrial education courses with at least a 3.0.

Kappa Delta Pi, honor society for professionals and students in education. A minimum 3.5 grade point average is required. The society recognizes outstanding contributions to field of education. Membership is by invitation.
Honors and Awards

Kappa Omicron Nu. A home economics honor society. Membership is by invitation and based on scholastic achievement. Undergraduate students who have completed 45 semester hours, a minimum GPA of 3.2, and rank in the top 25% of their university class are eligible for membership. Graduate students in the college of Human Ecology who have completed 12 semester hours and have a minimum GPA of 3.5 are also invited.

Mortar Board, for senior students. Members are elected from students with a minimum 3.0 average for three years of University studies.

National Slavic Honor Society (Dobro Slavo), for members of their third year of study of Slavic literature, culture, or related subjects with a minimum average grade of 85 percent on their last year of study, and an 80 percent overall average. Members are chosen from the undergraduate and graduate students of the institution.

Omicron Delta Epsilon, honor society in economics for students and faculty. Student members must have a minimum 3.0 overall average. Omicron Delta Kappa, for junior and senior students. Omicron Nu, for home economics students. Omicron Delta Epsilon members are elected from the upper one-fourth of the senior class and upper one-fifth of the junior class, not to exceed 20 percent of any given class. Order of the Coif, for law students.

Order of Omega, Greek honor society for junior/senior women of sororities or sororities with the minimum of the all sorority/fraternity GPA. The purpose is to recognize those women who have attained a high standard of leadership in intergreek activities.

Phi Alpha Delta, national honor society in social work for undergraduate and graduate students and faculty. Student members must have completed initial progress in to the BSW program with a minimum of 3.25 cumulative GPA and 3.50 in twelve semester hours in required social work courses. Theta chapter is to recognize and promote scholastic achievement among students and faculty in the BSSW program, to promote and further the goals of social work in the community, state, nation, and world, to stimulate interest in preparation for a career in social work, to encourage continued study and research at the undergraduate level and in profession practice, and to recognize professional social workers whose service and leadership are held in esteem.

Phi Beta Delta, for law students.

Pi Sigma Eta, national honor society for students enrolled in the College of Business Administration. Prospective members must be enrolled in at least three hours in the college with a minimum of 2.2 overall average.

Phi Delta Kappa, honorary professional fraternity in education connected with approved colleges and universities of graduate rank maintaining schools, colleges, or departments of education pursuing excellence in service, teaching, and research.

Phi Delta Phi, for law students.

Phi Eta Sigma, for freshmen who have a minimum grade point average of 3.5 the first year while carrying a full academic load. All candidates must rank in upper 20 percent of their respective class.

Phi Sigma Delta PI, for Spanish students. Prospective members must have a minimum 2.75 average in all University work and a minimum 3.2 average in Spanish and must have completed a junior year in Spanish literature or be registered in the last term of such a course.

Sigma Gamma Epsilon, honor society for students in earth sciences. Membership is by invitation, based on scholarship and interest.

Sigma Pi Sigma, physics honor society for upperclass and graduate students, faculty members, and qualified alumni.

Sigma Tau Delta International English Honors Society, is open to undergraduate English majors who have completed 12 courses in English beyond freshman writing, have at least a B average in English, and a GPA that puts them in the top thirty-five percent of all English majors.

Society of Professional Journalists, professional journalism society. Active membership shall be limited to journalism and broadcasting majors having at least a 2.3 overall grade average and having completed at least 30 hours.

XI Sigma Pi, national honor society for engineering students. The top one-eighth of the junior engineering class and the top one-fifth of the senior engineering class, scholastically ranked, may be elected. Election is held in the spring semester. The organization conducts programs and projects of benefit to students and the University.

Zeta Lambda Chapter, Alpha Kappa Psi Professional Business Fraternity. All undergraduates majoring or planning to major in business who have a minimum GPA of 2.75 are welcome to pledge Alpha Kappa Psi.

VICTOR M. DAVIS AWARDS

Granted each year to juniors who demonstrate exceptional campus leadership.

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

The American Society of Agricultural Engineers each year selects an outstanding biosystems engineering student for the ASAE Student Honor Award. Based on scholarship, activities, and community contributions, the award carries a key and certificate.

The American Society of Agronomy makes available a Certificate of Merit for an outstanding senior in the Department of Plant and Soil Science who has a superior academic record and displays evidence of high potential in this field.
The American Society of Animal Science awards scholarship medals and embossed certificates to sophomore, junior, and senior students in the College of Agriculture of Animal Science who are of good moral character and rank scholastically in the top 10 percent of their class.

The American Society for Horticulture Science awards a Certificate of Merit for an outstanding senior in either the Department of Ornamental Horticulture and Landscape Design or in the Department of Plant and Soil Sciences. The recipient will have a superior academic record and evidence of high potential in the horticultural field.

The Block and Bridle Club recognizes students in Animal Science who are successful in their academic program, have made unusual contributions to the club's program, and show evidence of leadership in their chosen field. Junior and Senior recipients may be entered in National competition for the possibility of other awards.

Dee W. Coley Memorial Stockman's Award. Presented by the Coley family in memory of Mr. Dee Coley, master stockman and community leader. Award made to an active senior Block and Bridle member with interest in the affairs and activities of the Animal Science Department, and a member of the Meat and/or Livestock Evaluation and Judging Teams.

Forestry Faculty Award. Awarded to the outstanding senior with the highest GPA in the Department of Forestry, Wildlife and Fisheries, regardless of major.

Forestry Spring Block Award. Awarded to the outstanding student participating in the Forestry Spring Block based on leadership, professionalism, congeniality, and superior performance. Recipient nominated by students and affirmed by the faculty.

M. Jacob Animal Husbandry Award. This award originally sponsored by the J.B. Madden family to honor Dr. M. Jacobs who was both head of the Animal Science Department and later Dean of the College of Agriculture.

Presented to a senior in Animal Science based on scholarship and overall animal production ability.

Kentucky-Tennessee Society of American Foresters Scholarship. Awarded annually to a senior forestry student who has excelled in academic performance, as well as student and professional activities.

Student-Faculty Council Awards. Each year the College of Agricultural Sciences and Natural Resources Student-Faculty Council presents plaques to four seniors, three juniors, two sophomores and one freshman student in the college judged to be outstanding. Selection is based on scholarship, character, and demonstrated leadership ability. Plaques are also presented to the two students in each class with the highest scholastic averages.

Wall Street Journal Student Achievement Award. Presented each year to the outstanding senior majoring in Agricultural Economics and Business. Award selection criteria include academic excellence, demonstrated leadership ability, and professional promise.

COLLEGE OF ARCHITECTURE AND DESIGN

AIA Medal and Certificate of Merit. Each year, the American Institute of Architects awards an engraved medal to the top ranking graduating student in each architecture program accredited by the National Architectural Accrediting Board. A Certificate of Merit is also awarded to the second ranking graduating student.

Alpha Rho Chi Medal. This prestigious award is given yearly at each architectural school across the United States. Outstanding students are selected by faculty based on their unsolicited service to the School and the University.

American Institute of Architects. Annually, the national AIA awards over one hundred scholarships to highly qualified third or fourth year undergraduate and second year graduate students. Each accredited school of architecture may nominate a certain number of students, based on the average graduation rate. The Scholarship Committee will nominate the allotted number of students. The student must complete an application form and submit three letters of recommendation to the AIA.

Barber and McMurry Scholarship for Excellence in Architecture. The partners of Barber and McMurry, Inc. in Knoxville created this endowment in 1996 to honor the memory of the founding partners, Charles I. Barber and Ben F. McMurry. The award will be given to a third, fourth, or fifth year undergraduate student who has demonstrated excellence in design work and other demonstrations of exceptional professional promise. Selection is made by the School with input from the firm. The first award was for the 1998-99 academic year, and the award amount will grow as the endowment is finalized.

Hubert Bebb Scholarship. Established in 1986 by Community Tectonics, Inc., this scholarship is in honor of Hubert Bebb, the firm's founder. For entering third year students, submission includes a signed letter, a written statement regarding career goals and the motivation for studying architecture, a portfolio of the student's best work during second year, (including a written problem statement and an explanation of the solution as well). Selection is made by the School.

Nell Mann Brown Scholarship in Architecture. Open to all students in good standing in the School of Architecture. This is an endowed scholarship in honor of Nell Mann Brown.

Bullock, Smith and Partners Scholarship for International Travel. This endowment, created in 1997, will enable a student to participate in one of the School of Architecture's International Programs. The award will be based on an outstanding academic record; generally the student must be in the top 20% of his or her class. The award will be made to a rising fourth-year student.

The Cope Associates Leadership Prize. Lanny Cope, a 1974 graduate of the School of Architecture, has created this award to support excellence. The prize will be awarded to a student in the fifth year who has demonstrated superior leadership as evidenced by problem solving, entrepreneurial, management ability, a quality of thinking that shows initiative, and other accomplishments.

CSI Technical Prize. This monetary prize is awarded at the annual hooding ceremony to the graduating senior with exemplary achievement in the technical courses offered in the School. The award is provided by the Knoxville Chapter of the Construction Specifications Institute.

The Jack A. Davis Scholarship. This scholarship was established in 1997 by Thomas E. Davis, Director of Student Advising, in memory of his father, Dr. Jack A. Davis. The award is for African-American students with a preference for an incoming first-year student.

Derthick, Henley and Wilkerson Architects. Established in 1995, this endowment provides funds for a selected student from either the undergraduate or graduate program. The first priority is a minority student who is a resident from Tennessee.

Faculty Award. This award, implemented in 1996, is given to the outstanding senior design project at the annual gala and ceremony. This award is selected by the faculty. This project will be displayed with the Letters of Excellence winners and the Bronze Medal winner.


General Shale Scholarship. For students with fourth-year undergraduate or second year graduate standing, one or five awards are made for a total of $10,000. Awards are made by the scholarship committee. A long time benefactor of the School, General Shale Products Corporation of Johnson City is one of the nation's leading manufacturers of high-quality face brick. This scholarship program was established in 1981.

Goodstein and Associates Architects Inc. Technical Draftsman Award. Established by Mr. Joseph Goodstein in 1982, this award is to be given to a student selected from first year.

The Ben Allan Gregory Memorial Scholarship. This scholarship was established by Dwight and Linda Gregory in memory of their son Ben Allan Gregory. Ben was a second year architecture student at the time of his tragic accident that took his life in November of 1997. This scholarship was first awarded in Fall 1999 to a student from Ben's class as requested by the family. The award shall be given to a third, fourth or fifth year architecture student who has demonstrated a successful academic performance. Financial need shall be a factor.

Jami S. High Memorial Scholarship. Open to sophomores, juniors, or seniors. Based on academic merit, career potential, and financial need. Interior design majors only.

Hnedak Bobo Group, Inc. Graduate Fellowship. Established in 1994 by the Memphis architectural firm of Hnedak Bobo Group, Inc., this graduate fellowship is intended to encourage minority students to enter the profession of architecture. Greg Hnedak is an alumnus of UT School of Architecture. Up to three awards will be made each year, and are renewable. Each award is worth $2,500. In addition, the firm intends to offer an opportunity for summer internship to the recipient.

King and Johnson Architects, Inc. Scholarship. Open to all undergraduate and graduate students entering third, fourth and fifth year, with a true financial need. This scholarship was established in 1991 by David King and Fred Johnson, both graduates of the School and successful practitioners in the Knoxville area. Recipients will also have an opportunity for part time employment during the academic year, or during the summer after the scholarship is received.

Letters of Excellence. These awards are presented to the outstanding thesis as nominated and selected by the fifth year faculty. These projects go into a special exhibit during the following graduation.

The Lewis Group Architects, Inc., P.C. This award is open to students completing their first year in the program who have a financial need. Award is open to students with a 3.0 or greater GPA. Students selected should not have another scholarship.
Honors and Awards

MX-Design Minority Scholarship. Established in 1987 by Reginald Ruff, a graduate of the program and a practicing architect in Chattanooga. Students must have completed their first semester in school.

Ed Meiers Memorial Scholarship. Established by the Tennessee Foundation of Architecture to honor Ed Meiers, a Nashville Architect. Only undergraduate students are eligible who have a financial need and strong academic standing.

Pella Traveling Scholarship. Based on design performance during the second semester of the third year, this award recognizes the importance of travel in the education of an architect. This is a premiated award. The recipient must apply for the award towards approved travel expenses associated with the student's architectural education. This award was established in 1984 by Tate Window and Door Company, the local distributor for Pella Windows.

Pilot Corporation Fellowship. Awarded to a graduate student with professional promise. This Fellowship includes tuition, fees, and a required paid internship in the Architecture Division at Pilot Corporation in Knoxville. Selection is made by the Graduate Committee with input from Pilot Corporation.

Alma and Hal Reagan Scholarships. For undergraduates and graduates entering their last year of college, an outstanding academic record, a documented contribution of service to UT and an outstanding academic record. This scholarship was endowed in 1988 in honor of Alma and Hal Reagan, who were lifelong friends of architecture. At least one award each year shall be based on academic excellence and additional scholarships being awarded to help minority students and women in architecture.

Malcolm Rice Architecture Award. For a third-year student showing exceptional achievement and promise for leadership during that year. Established in 1980 in honor of Malcolm Rice, a retired architect who worked with I.M. Pei on the National Gallery of Art in Washington, DC. Mr. Rice also served as the University Architect.

Ruby Rockman Scholarship. Established in 1980 by the Knoxville Chapter of the National Association of Women in Construction, this award is for third, fourth or fifth year students residing in East Tennessee. The School of Architecture makes this award in alternate academic years, commencing with even numbers. The award helps needy or deserving upper-class students.

Darrell Russell Scholarship. This endowment provides funds for an incoming first-year Architecture or Interior Design student with significant financial need. Darrell Russell (Arch. 1982) established this endowment in 1998 based on a desire to help students in the same way he was helped with a scholarship in his freshman year.

Dottie Sanders Interior Design Scholarship. Student awarded this scholarship shall have demonstrated academic performance and financial need in the broadest sense. Open to all years. Interior Design majors only.

Architecture Endowment. A number of scholarships are awarded based on need for undergraduate or graduate students in good academic standing. This scholarship has been endowed by funds received over the past 30 years from numerous donors.

Robert Seals Scholarship. Established in 1994 by the Chattanooga AIA chapter in memory of Robert Seals, a highly respected Chattanooga architect. This substantial award is for students from Chattanooga/Hamilton County or East Tennessee who demonstrate academic excellence and financial need. The Robert Seals Scholarship is open to students at any level.

Susie Benson Slyman Scholarship. Established by the Knoxville Chapter of the National Association of Women in Construction, this award honors a former director of the chapter. Preference shall be given to women, and students shall be in their third, fourth, or fifth year of the undergraduate program. They should demonstrate academic excellence, professional promise and financial need. The School of Architecture makes this award in academic years commencing with an odd number.

Tau Sigma Delta Bronze Medal. The Bronze Medal is awarded to the outstanding senior design project. The Architectural Honor Society, Tau Sigma Delta, organizes the selection of this award. Meritorious thesis projects are nominated by the faculty and by fifth year students. These nominees are judged by a panel of jurors from the architectural profession. The project will be displayed with the letters of excellence in the summer following graduation.

West Virginia Society of Architects. For a West Virginia resident who has completed six or more semesters at the undergraduate level or is enrolled in a graduate program. Eligible students should contact the West Virginia Society of Architects prior to April to apply.

Shelby Williams Fund for Excellence. Preference is given to those attending high school in great Mountain area. Consideration may be given to older out-of-state students. Open to all years. Interior design majors only.

Zuckerman Family Scholarship. For fourth or fifth year students displaying outstanding academic achievement. Established in 1990 by Haim Zuckerman, a successful graduate of the School of Architecture in Atlanta.

COLLEGE OF ARTS AND SCIENCES

John M. Allen Mathematics Prize. Awarded to outstanding freshman mathematics student.

Eleanora R. Burke Award. For excellence in expository writing. Founded in honor of the daughter of a former head of the English department.

Captain Robert A. Burke Award. For excellence in English prose fiction. Founded in honor of the son of a former head of the English department.

Calvin A. Buehler Chemistry Scholarship. Awarded to an outstanding undergraduate chemistry major who plans to pursue chemistry as a career.

Eleanor R. Burke Award. For excellence in expository writing. Founded in honor of the daughter of a former head of the English department.

Terry Burnette Memorial Award. Established by the College of Education's building on UTK campus. Candidates must be graduating from the College of Arts and Sciences and planning to enroll in UTK's graduate education program. The award is given to students at the Arts and Science's Board of Visitors spring meeting.

Randall Cline Award. For writing an outstanding master's degree thesis in mathematics.

James A. Cooley Mathematics Scholarship. Awarded to a mathematics major. Based on scholastic achievements and financial need. Special consideration for students interested in mathematics education.

Arnett A. Elliott Award. Established by the Department of Political Science to honor Arnett A. Elliott, and promote scholarship in Political Science. This award is given to students of distinguished performance in Political Science.

James O. and Minnie Elliott Memorial Scholarship. For “deserving and high ranking students” in any branch of Political Science.

James O. and Minnie Elliott Memorial Scholarship. Awarded to outstanding undergraduate students based on outstanding portfolios.

Dorothy H. Diller Scholarship Awards are given to art majors in the following categories: outstanding undergraduate art history paper; study travel; purchase of materials; outstanding graduate student; outstanding undergraduate art student; and cash awards for the Annual Student Art Competition.

James Frederick Fields Scholarship. Established by the Department of Political Science to honor James Frederick Fields, Professor of Political Science. This award is given to undergraduates for distinguished performance in Political Science.

The Buck Ewing Graduate and Undergraduate Awards are given to art students based on outstanding portfolios.

James O. and Minnie Elliott Memorial Scholarship. For "distinguished students" in any branch of Political Science.

Ralph Frost Scholarship. Awarded to outstanding undergraduate students.
T. H. and Jeannette Gillespie Scholarship. An award given to an undergraduate art major for outstanding performance.

Ann Hight Gore Scholarship. Awarded to the English major who is judged the most outstanding student in the two honors courses, English 398 and 498.

Edgar G. Guenther Scholarship. For any student studying City of Kingsport, Tennessee and who is enrolled in the study of municipal government, management, planning or other related subjects.

Edward H. Hamilton Scholarship. Awarded to deserving initial teacher licensure students in Music Education.

James and Natalie Haslam Scholarship. James A. Haslam II and his wife, Natalie, set up the Haslam Scholarships at The University of Tennessee, Knoxville to attract outstanding students to the University. A total of twelve scholarships are to be funded each year with eight being in the College of Arts and Sciences and four in the College of Business Administration. There are to be two Haslam Scholarships in each of the four classes (freshman, sophomore, junior and senior) in the College of Arts and Sciences. Students selected must be currently enrolled or have been admitted to UT, Knoxville, have a minimum high school grade point average of 3.5 with a minimum ACT score of 27, and have demonstrated financial need and an academic scholarship potential. A minimum UTK grade point average of 3.0 is required, with a minimum of 12 hours carried each semester with satisfactory progress being made toward an undergraduate degree.

Maud Calloway Hays Scholarship. Variable scholarship to senior history major with special interest in U.S. history.

History Department Scholarship. Given to a history major with financial need.

John C. Hodges Merit Scholarships. Awarded to some of the top ten declared English majors. An additional scholarship is awarded to the top minority declared English major. Scholarships pay full tuition. Applications available spring semester.

D. Frank Holtman Award. Presented to a graduating student for outstanding academic achievement in Microbiology.

Italian Studies Award. Established by the Italian division of Department of Romance Languages. Cash award to outstanding student in upper-division courses in Italian.

Charles E. Jett II Memorial Scholarship. Awarded to students who have been accepted in the College Scholar Program at the University of Tennessee, Knoxville and are in their junior or senior year. The award was set up by Lt. Col. Charles E. Jett in memory of his son, Charles E. Jett II, a University of Tennessee, Knoxville student. Applications are made to Dr. Jack Reese, former mentor of Mr. Jett and current director of the College Scholar Program. The award is made each spring semester.

Florence Sanders Jones College Scholar Award. Established by Ronald J. Hines and Florence Sanders Jones, long-time friends of the College of Arts and Sciences and the University of Tennessee, and charter members of the College’s Board of Visitors since 1979, this scholarship is awarded to students who have been accepted into the College Scholars Program and have demonstrated a broad financial need. The award is made during the Spring semester each year to a deserving junior or senior in the program. Applications are made to the current director of the program, Dr. Jack Reese.

The Charles W. Keenan General Chemistry Award. An annual award presented to the outstanding student enrolled in first year chemistry classes.

Knickmeyer Poetry Prize. For excellence in writing English poetry. Awarded by the late Stephen L. Moore in honor of a former head of the English Department.

Senior Latin Foundation Prize. Established by friends of the classics. Cash award, to members of senior Latin class showing greatest proficiency in the course.

Lucille and Herbert Lee Mathematics Scholarships. Given to mathematics majors for academic excellence.

John R. and Sarah N. Long Scholarship. The Long Scholarship was established as John R. Long II and Susan Long Marks in memory of their parents who both received Liberal Arts degrees from UTK. Students who have demonstrated superior academic performance by maintaining at least a 3.0 grade point average, who are involved in extracurricular activities and community services, and are pursuing Arts and Science degrees are eligible for this award.

J.P. and Gladys Maples Scholarship. J.P. and Gladys Maples set up the Maples Scholarship Endowment Fund in memory of their children, Kaye Maples Cooper, Joyce Maples Moore, Dianne Maples Fory and James Ronald Maples, all of whom are graduates of the University of Tennessee and are married to UT graduates. The scholarship will rotate between the Colleges of Arts and Sciences (1955 through 1999), Education (1999 through 2001), and Business (2001-2003) with the cycle continuing every eight years. Recipients will need to show evidence of motivation by working for part of their school expenses, be enrolled at the University of Tennessee, Knoxville as juniors or seniors and have a minimum of 2.5 with demonstrated financial need.

James Marable Award. The Marable Award was set up in memory of Dr. James H. Marable who received his Ph.D. in physics from UT, Knoxville in 1967. He and his wife, Barbara Davidson Marable, founded the Knoxville Symphony Youth Orchestra and he was conductor of the Johnson City Symphony for ten years, as well as the assistant conductor of the Oak Ridge Symphony for many years. The Marable Scholarship is open to UTK students who have demonstrated successful academic performance and are enrolled in the department of Music, Physics or Computer Science.

Charles T. McClung Prizes. Cash prizes to junior and senior Speech Communication majors for excellence in competitions pertinent to the speech discipline.

Louise Carr McClure Scholarship. Established for outstanding students in the Humanities with preference in Philosophy majors.

Mrs. J. Harvey Mathis Tennessee DAR American History Scholarship. Given to a woman student selected by the Department of History.

A.D. Melaven-Rhenium Scholarships. For students in the Bachelor of Science in Chemistry curriculum. Established from funds obtained by the sale of rare earth metal and rhenium compounds prepared by processes devised by Professor A.D. Melaven. Cash awards given each term to outstanding students.

J. Owen Moss Scholarship. The fund was set up for Arts and Science students who have demonstrated successful academic performance, a financial need, a high moral character and willingness to secure a college education through hard work and patience.

Native American Studies Scholarship. This award was set up by Mr. and Mrs. Dale J. Roberto for students majoring in Anthropology with an emphasis in Native American Studies and/or undergraduate students of Native American origin who are currently enrolled in the College of Arts and Sciences on campus. At least one scholarship has been awarded to students for each of the last two years. The recipient shall have demonstrated success in academic performance.

Alvin Nielsen Scholarships. Alvin Nielsen College Scholarships Award. The Alvin Nielsen College Scholars Scholarship Award was established in 1977 on the occasion of Dr. Nielsen's retirement as Dean of the College of Fine Arts. Dr. Nielsen was a very proud of the College Scholars Program which was first implemented during his tenure as Dean. This program was designed to meet the needs of superior, highly motivated and creative students. The scholarship is available to students in the College Scholars major who are rising juniors or seniors. Applications are submitted each Spring Semester and are announced at the annual Spring dinner. Judged by faculty members who work with the program, selection is made on the basis of the campus and grade point average, the students educational objectives, and recommendations by the major faculty advisor and another faculty member.

Opening Night Club Scholarships. Awarded to undergraduate and upperclassmen and graduate students. Applications are available spring semester.

Paula and Joseph Peeden Scholarship Award. The Paula and Joseph Peeden Scholarship Award was established by the Drs. Peeden to provide scholarship assistance for deserving students in the College of Arts and Sciences at the University of Tennessee, Knoxville. Dr. Joseph Peeden is a pediatrician in private practice in Knoxville and maintains active study and research in genetics at the University of Tennessee Medical Center, while Dr. Paula Peeden is an OB/GYN in Knoxville. Both received undergraduate degrees from UT, Knoxville and received their MD degrees from UT, Memphis College of Medicine. Students who have demonstrated successful academic performance and who have a financial need are considered for these extra-curricular activities and community service are also taken into consideration. A $1,000 award is made each year to a deserving student who has matriculated at the field of medicine.

Larry Ratner Scholarship. Set up by the Board of Visitors, staff, and faculty of the College of Arts and Sciences to honor Dr. Ratner on the occasion of his retirement from the Deanship in 1996. The scholarship is given to students who are currently enrolled or have been admitted to the University of Tennessee, Knoxville and are enrolled in an Arts and Sciences program, who have demonstrated successful academic performance, and most importantly have demonstrated financial need.

Nina Ratner Memorial Scholarship. The Nina Ratner Memorial Scholarship was set up by Dr. Larry Ratner, Dean of the College of Arts and Sciences, in memory of his late wife, Mrs. Ratner was a patron of the arts in the East Tennessee area. Students who are in the College of Arts and Sciences, major in humanities, and who show academic promise and financial need are eligible to apply for the award.

Judson H. Robertson Award in Analytical Chemistry. Endowment established by family and friends of the late Professor Robertson. Given to a student with highest scholastic average in sophomore analytical chemistry courses.
Berndotte Schmitt History Scholarships. Two scholarships for academic excellence and one based on financial need. History majors only.

Cooper D. Schmitt Scholarships. Given to mathematics majors for academic excellence.

Mary Louise Sellaz is an award given to an undergraduate art major for an outstanding portfolio.

Caesar and Edith Stair Music Education Fund. Awarded to junior or senior initial teacher licensure students in Music Education.

Ruth Stephens Award in International Relations and International Law. Established by the late Mr. and Mrs. Oscar Handly, Knoxville. Given to the student showing greatest knowledge of international relations or international law.

Ruth Stephens History Scholarship. Given to history major for academic excellence. Tau Sigma Delta Bronze Medal. The Bronze Medal is awarded to the outstanding senior design project each year. The Architectural Honor Society, Tau Sigma Delta, organizes the selection of this award. Meritorious thesis projects are nominated by the faculty and by fifth year students. These nominees are judged by a panel of jurors from the architectural profession. The project will be displayed with the Letters of Excellence winners in the summer following graduation.

Carl A. Vines Jr. Scholarship. Awarded to a Jr./Sr. Theatre major with demonstrated successful academic and creative promise (every other year).

Margaret A. Woodruff Creative Writing Award. This award was initiated by Coach Robert Woodruff, former University of Tennessee Athletics Director, in memory of his late wife, Margaret Woodruff, for those undergraduates Arts and Sciences students who have a minimum of a 2.5 grade point average and demonstrate outstanding writing ability through an announced contest. Competitions are usually held each Spring semester.

COLLEGE OF BUSINESS ADMINISTRATION

Accounting Development Scholarship. Monies awarded to Accounting students when available.

Accounting General Scholarship Fund. Monies awarded to Accounting students when available.

American Marketing Association Scholarship. Senior majoring in Marketing.

American Society of Women Accountants Scholarship. Awarded to undergraduate female students accepted into the Accounting Program. Demonstrated successful academic performance. Financial need may also be considered.

AMOCO Scholarships in Logistics and Transportation. Must be a Logistics and Transportation major; junior standing with at least a 3.0 GPA.

Andersen Consulting CBA Scholarship. Awarded to undergraduate business students with a minimum GPA of 3.0. Demonstrated academic achievement and leadership skills.

Arthur Andersen and Co. Alumni Scholarship. Awarded to Accounting students.

Grace and Brodie Baynes Scholarship in Accounting. Awarded to a junior or senior majoring in accounting.

Bible-Niemann Student Development Award. Student award.

Carey and Joan Brown Scholarship. Preference is to students from Davidson, Knox or Hamilton Counties in Tennessee.

Rhea and Ada Burns Scholarship. Awarded to entering freshman who graduated in the upper twenty-five percent of their class.

Carolyn Freytag Carriers Scholarship. Students majoring in Transportation.

David Chambers Memorial Scholarship. Awarded to a student majoring in Statistics.

College of Business Administration General Scholarship. Monies awarded to students when available.

College of Business Minority Scholarship. Monies awarded to minority students when available.

Coopers and Lybrand—New Venture Analysis in Accounting. Named for the company of year award.

C.P.A. Auxiliary Accounting Scholarship. Awards for Accounting students.

Howell C. Curtis Memorial Scholarship. Awarded to a senior majoring in Finance.

Bernard I. Dahlberg Memorial Scholarship. Junior or senior majoring in Accounting.

Delta Nu Alpha Scholarship in Transportation. Students majoring in Logistics and Transportation.

Robert R. Dince Memorial Scholarship in Finance. Awarded to students in Finance.

David D. Dortch Scholarship. Junior or senior majoring in Logistics and Transportation.

Dow Chemical Scholarship. Awards for Logistics and Transportation students.

David C. Duckett Scholarship in Marketing. Must be a junior or senior majoring in Marketing with a GPA minimum of 2.75.

Dupont Minority Scholarship in Accounting/Minority students in Accounting.

Eastman Minority Scholarship in Accounting. Awards for minority students.

David Ferrell Memorial Scholarship. Awarded to a rising junior or senior who wishes to major in Marketing.

Liston M. Fox Memorial Undergraduate Scholarship. Awarded annually to a rising sophomore who is attending a major in the College of Business Administration.

Jack G. Frazier Scholarship. Awarded to undergraduate business students with preference given to Rhea County / East Tennessee students with successful academic performance and/or financial need.

Frito-Lay Minority Scholarship. Awards for minority students.

James A. and Natalie L. Haskell Scholarship. Awarded to business students with emphasis on academic achievement and leadership.

James H. Healy TEDP Scholarship. Established by participants in the Tennessee Executive Development Program.

Mr. and Mrs. Jeff L. Hemphill Scholarship. Awarded to a student who has demonstrated outstanding academic achievement. Participation in extracurricular activities. Financial need may also be considered.

Home Federal Bank of Tennessee Scholarship. Preference is given to students from counties served by Home Federal Bank (Knox, Anderson, Blount and Sevier) and entering freshmen with ACT scores between 23-28 (or SAT of 1050-1260).

J.J.B. Hillard and W. L. Lyons Scholarship. Junior or senior majoring in Management.

John Fred Holly, Jr. A memorial scholarship endowed by parents. Awarded annually to a rising junior or senior.

John F. Humphrey Metal Fabricators, Inc. Awarded to a student from Knox County or East Tennessee majoring in Logistics.

Insurance Scholarship. Students from Tennessee in the Finance Department.

George Robert Johnson Scholarship in Business. Preference given to students who have demonstrated financial need and who reside in the following counties: Bledsoe, Bradley, Grundy, Hamilton, Loudon, Marion, McMinn, Meigs, Monroe, Polk, Rhea, and Sequatchie in Tennessee and or Catawba, Dare, Murray or Wilkes counties, Georgia.

Edward E. Judy Scholarship. Seniors in Accounting.

Mack E. Kiger Scholarship in Accounting. Awarded to a Junior or Senior accounting major with outstanding scholastic achievement, leadership, and communication abilities. Financial need may also be considered.

Ben and Margaret Kimberough Scholarship. Preference will be given to those students who demonstrate outstanding academic achievement.

E. Ward King Scholarship. Recipient must be majoring in Logistics.

Knoxville Community Housing Resource Board Minority Scholarship. Established through grant from HUD for minority students in Finance.

Guy L. Lachance Memorial Award. Award given to Accounting students.

Thomas S. Lewis, Jr. Scholarship. Awarded to Accounting students.

Mike Littlejohn Minority Scholarship. Open to Tennessee African-American students in College of Business.

The James F. Lyle, CLU Insurance Scholarship. Awarded to undergraduate or graduate student with preference given to those students with an interest in insurance.

A. David and Beverly Martin Scholarship. Juniors or seniors majoring in Accounting.

James E. Martinson Memorial Scholarship. Students majoring in Marketing. Must be a junior or senior majoring in Marketing with a GPA minimum of 2.75.

G.W. McCall, Sr. Scholarship. College of Business students with outstanding GPA.

Lloyd S. McCulloch Scholarship. Awarded annually to a business student.

Mr. and Mrs. James Miller Scholarship. Awards made to Marketing students.

Anne Y. and Herman L. Modlin Scholarship. Awarded to a new freshman.

Fulton Beverly Moore, III Memorial Real Estate Scholarship. A memorial scholarship fund endowed by the parents.

Pearl and Edward Moore Scholarship. Scholarship for Economics majors.

Roger M. Moore, Sr. Scholarship. Students with outstanding academic success with interest in Finance Department.

Tom and Linda Morris Scholarship. Monies awarded to business students when available.

Check and Ena Neel Scholarship. Preference to undergraduates who are first generation college students.

Thomas P. Nelson Memorial Scholarship. Awarded to a full-time undergraduate student.

Pan Energy Corp. Students must have high ACT/SAT scores and high school G.P.A.

Ken and Wanda Patton Scholarship/Fellowship in Finance. This is available to undergraduate students or students enrolled in the master's degree program.
Phillips Petroleum Transportation Scholarship. Preference given to students majoring in Transportation.

Pilot Oil Corporation Minority Scholarship. Awarded to a full-time minority student intending to major in Finance.

Beulah Collins Post Scholarship in Economics. Students must be majoring in Economics.

Octavia McNair Post Scholarship in Economics. Students must be majoring in Economics.

Procter and Gamble Alumni Scholarship. Recruitment of outstanding students.

Quaker Oats Minority Scholarship. Awarded to a minority student intending to major in Logistics.

Alma and Hal Reegan Scholarship. Awarded to CBA undergraduate students majoring in Business.

Bobs and Finley Scholarship. Preference given to students from Jackson, Tennessee area (includes Jackson, Selmer, Savannah, Lexington, Humbolt, Milan, Paris, Huntington and the areas in between).

King Rogers, Jr. Scholarship. Awarded to high school graduate in Dyer County area.

Rosemary Snyder Roush Scholarship. Junior or senior from Tennessee with a 3.0 GPA. Scholarships in Business are available.

Emile Seilaz Scholarship. Recipient must maintain a 3.0 average.

Michael Shaffer Memorial Scholarship. Awarded to undergraduate, full-time CBA students with outstanding academic achievement.

Shelby Accounting Scholarship. Awarded to undergraduate students majoring in accounting in their junior or senior years who plan to pursue a career in accounting. Successful academic performance with emphasis on oral and written communication skills. Financial need may also be considered.

Shell Oil Undergraduate Awards. Used to assist undergraduate business students who are U.S. citizens or have permanent resident visas.

Betsy and Toby C. Silberman Scholarship. Awarded to undergraduate, full-time Finance majors. Preference given to students with a concentration in insurance. Outstanding scholastic achievement. Financial need may be considered.

Warren Slagle Scholarship. Monies awarded to students when available.

Clarice and Orville Smith Memorial Scholarship. Scholarships for students who have demonstrated successful academic performance.

The Thomas S. Smith Finance Scholarship. Awarded to undergraduate or graduate Finance students. Successful academic performance with preference given to those interested in real estate or urban development.


William B. Stokely, Jr. Scholarship. Primary consideration is given to students from Cokes, Monroe or Loudon counties.

Joe Sullivan, III Scholarship. Awarded to students majoring in Finance.

Suntrust Bank Scholarship in Finance. Awarded to undergraduates in Finance.

Tennessee Graduate Scholarship in Business. Awarded to undergraduate business majors who are Tennessee high school graduates with outstanding scholastic achievement. Financial need may also be considered.

Daniel H. Testerman Memorial Scholarship. Awarded to a junior or senior majoring in Finance who has an interest in Real Estate.

Charles Thigpen Scholarship in Statistics. Monies awarded to Statistics students when available.

Stephen R. Trotter Memorial Scholarship. Full-time students in Accounting.

Dean Frank B. Ward Memorial Scholarship. Awarded annually to an Economics major.

Ira A. Watson Retailing Scholarship. Recipient must be a junior majoring in Retailing.

William Vay, Jr. Memorial Scholarship. Scholarship for students with financial need who are Transportation majors.

John and Wanda Wisecarver Scholarship. Business with outstanding academic achievement.

Ronald Wolfe Scholarship Fund. Monies awarded to Economics students when available.

Singleton Wolfe Scholarship. Awarded to an undergraduate Accounting major who shall be a member in good standing of the Alpha Lambda Chapter or Beta Alpha Psi.

**COLLEGE OF COMMUNICATIONS**

Advertising Scholarship Fund. Given to one or more juniors or seniors in the Department of Advertising based on academic achievement and professional promise.

Alpha Epsilon Rho Scholarship. For a junior, senior or graduate student in broadcast with a minimum of 3.0 GPA in recognition of merit, radio-related activities and financial need.

Karl and Madira Bickel Scholarships. Freshman, upperclass and doctoral scholarships. Open to all students showing academic performance (3.5 or better), professional promise, and need.

Zack Binkley Memorial Scholarship. Given to an undergraduate or graduate student in news-editorial journalism with a minimum 3.0 GPA in recognition of outstanding professional promise.

Lowell Blanchard Scholarship. Given to a full-time rising junior or senior Broadcasting student with a minimum 3.0 GPA. Recipient will have demonstrated high standards of professional conduct and concern for the public welfare.

The Bohan Scholarships. Given to an outstanding entering freshman, majoring in journalism, and graduate of a Tennessee high school.

Tutt and Elizabeth Bradford Scholarship in Advertising. Awarded to juniors or seniors majoring in advertising.

**Honors and Awards**

Tutt and Elizabeth Bradford Scholarship in Journalism. Awarded to juniors or seniors majoring in journalism.

Broadcasting Scholarship. Given to graduate or undergraduate students in the Department of Broadcasting who have demonstrated outstanding academic achievement and professional promise.

Janet Fay Breazeale Scholarship. Given to an undergraduate student in the School of Journalism with a minimum 3.0 GPA.

Nat P. Caldwell Journalism Scholarship. Given to a junior or senior in the School of Journalism who has demonstrated high standards of professional conduct and concern for the public welfare.

Josephine Chambers Scholarship. Given to an outstanding undergraduate in the Department of Advertising.

Myron G. Chambers Scholarships. To one or more outstanding undergraduates in the Department of Advertising.

Coca-Cola Minority Scholarship. Awarded to gifted minority students in Communications with a minimum of 3.0 GPA and taking into consideration financial need.

Charles B. Davis Scholarship. Given to an outstanding rising senior in the Department of Advertising.

Frank Gorrell/Jamison Bedding Scholarship. Given to a full-time graduate or undergraduate student who demonstrates a strong work ethic and persistence both in and outside of the classroom.

Alex Haley/Playboy Interview Scholarship in Magazine Journalism. Given to an outstanding rising junior, senior or master’s degree student majoring in Journalism with a minimum 3.0 GPA based on academic performance, professional promise and financial need.

Julian and Virginia Harriss Memorial Scholarship. Given to an outstanding student in the Department of Communications.

John P. Hart Scholarship in Broadcasting. Given to an undergraduate student in the Department of Broadcasting who has demonstrated outstanding academic achievement.

Michael Steven Head Memorial Scholarship. Given to a non-traditional undergraduate student from a small school in Tennessee or Kentucky based on financial need.

Donald G. Hileman Scholarship. Given to an outstanding junior or senior in the College of Communications who displays outstanding professional promise.

Darrel W. Holt Scholarship. Given to a graduate or undergraduate student in the Department of Broadcasting who has demonstrated outstanding academic achievement and professional promise.

Richard Joel Scholarship. Given to students in advertising.

Sally Holder Johnson Memorial Scholarship. Given to students who have graduated with a major in Communications and who have demonstrated academic achievement and professional promise.

Holt/Howard Broadcasting Scholarship. Given to a full-time master's degree student in the broadcasting program with a minimum 3.0 GPA, based on academic performance, professional promise and financial need.

Journalism Faculty Scholarship. Given to an outstanding junior or senior in the School of Journalism.
Honors and Awards

Nellie D. Kenyon Journalism Scholarship. Given to a female Tennessee resident in the School of Journalism who has an interest in a career in newspaper work. 

Bernard King Communications Scholarship. Awarded to an outstanding African-American undergraduate or graduate Communication student with a minimum 3.0 GPA and taking into consideration financial need. 

Knoxville Advertising Federation. Awarded to an undergraduate student in advertising. 

The Knoxville News-Sentinel Journalism Scholarship. Given to one or more students in the School of Journalism who have shown exceptional professional promise and are committed to newspaper journalism. 

John M. Lain Public Relations Award. Given to an outstanding senior or junior in the School of Journalism who shows the greatest promise in public relations. 

Kelly Leiter Scholarship. Given to an outstanding student in the School of Journalism who has an interest in news and public affairs journalism. 

Hubert H. and Mary Helen Longmire Journalism Award. Given to a junior or senior news/editorial student to help defray job search of internship costs. 

Edward J. Meeman International Communications Fellowships. Given to two outstanding graduate students from other countries. 

Memphis Gridiron Show Scholarship. Given to a student from the Memphis area who is a news-editorial major from the sponsors of the annual gridiron show. 

Chester A. Molley Memorial Scholarship. Given to an outstanding member of the staff of student publications. 

David F. Mouldy Scholarship in Journalism. Awarded to an in-state undergraduate news-editorial major with a minimum 3.0 GPA and financial need. Preference is given to current or former Daily Beacon staff members. 

Lindsey Nelson Scholarship. Given to an outstanding junior or senior in the Department of Broadcasting with an interest in sports broadcasting. 

Outstanding Advertising Student Award. Given to an outstanding senior or graduate in Department of Advertising. 

The Francis "Red" O'Donnell Scholarship. Given to an entering freshman who has graduated from an accredited Tennessee High School and who is committed to a career in print journalism. 

Ernie Pyle Award. Given to the outstanding senior in the new-editorial sequence in the School of Journalism. 

Sammie Lynn Puett Award. Given to an outstanding student in the public relations sequence in the School of Journalism. 

W.F., "Rex" Raney Scholarship. Given to an outstanding broadcasting student pursuing a news/public affairs curriculum. 

Reeder-Siler Graduate Fellowship. Given to graduate students in Communications with a minimum of 3.0 GPA and taking into consideration financial aid. 

Tom Siler Scholarship. Given to an outstanding junior or senior in the School of Journalism who has an interest in a career in news-editorial journalism. 

Society of Professional Journalists Scholarships. Given by East Tennessee professional chapter of SPJ to a junior majoring in news-editorial journalism or broadcasting news/public affairs. Funds are raised by the chapter's annual Front Page Follies. 

The Knoxville News-Sentinel Advertising Scholarship. Given to one or more students in Department of Advertising who have shown exceptional professional promise. 

Avron Spilotro Advertising Scholarship. Given to an outstanding student in the Department of Advertising. 

Tom Sweeten Memorial Journalism Scholarship. Given to an undergraduate student in the School of Journalism with a minimum 3.0 GPA based on professional promise. 

Claude A. Tomlinson Scholarship. Given to a junior or senior in the Department of Broadcasting. 

Escar Thompson Memorial Scholarship. Given to an outstanding senior in the School of Journalism who has exhibited outstanding professional promise. 

The Charles P. Tombras Sr. Scholarship. Given to a student majoring in advertising who demonstrates strong professional promise and who has an interest in the creative function in advertising. 

Willis C. Tucker Scholarship Award. Given by Society of Professional Journalists. 

Silver bowl or key to graduating senior with highest academic average. 

Georgiana Pryor Scholarship. Given to a student with a minimum 3.0 G.P.P.A., who has demonstrated professional promise by having distinguished himself/herself in curricular or extracurricular journalistic activities. 

Horace V. White Jr. Scholarship. Given to an outstanding student in the School of Journalism based on professional promise. 

Leslie Meredith Williams Scholarship. Given to a senior minority student in the College of Communications based on academic excellence, motivation, strong will, ambition, charisma and commitment to community service. 

James Wolfkill Scholarship. Given to a senior in the School of Journalism. 

Richard Worden Scholarship. Given to an outstanding Journalism student. 

Dr. Betty Broman Textbook Scholarship. Awarded to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

Paul C. Burns Memorial Scholarship. Awarded to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

College of Education Alumni Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

Billie Cannon DeMont Graduate Scholarship. Awarded to a deserving full-time masters or doctoral level student in Educational Leadership. 

Fitzgerald Scholars. Preference given to fifth-year teacher interns seeking initial teacher license. 

The Billie Grace Goodrich Scholarship Fund. Awarded to a fifth-year teacher intern seeking initial teacher licensure who is from Gibson County. 

Dr. Lillian L. Gore Scholarship Endowment in Elementary Education. Awarded to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

Herman G. Graff Scholarship. Awarded to a deserving doctoral student in Educational Leadership. 

Orin B. Graff Scholarship. Awarded to a deserving full-time doctoral student in Educational Leadership. 

Helen Griffin Headlee Memorial Scholarship. Preference given to fifth-year teacher interns seeking initial teacher license who are from Louden County. 

Richard J. Hincke Scholarship. Preference given to fifth-year teacher interns seeking initial teacher license. 

A.W. Hobt Memorial Scholarship Fund. Awarded to Graduate Teaching Associates in the Physical Education Activity Program. 

Harry and Mary Hudson Scholarship. Awarded to a deserving student in the Human Services Program. 

Gipple Jones Scholarship Endowment Fund. Preference given to an initial teacher licensure freshman from Cumberland County. 


Andrew Charles Robinson Memorial Scholarship. Preference given to fifth-year teacher interns seeking initial teacher license in either Elementary Education or Special Education. 

Scott County Intern Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher license. 

R.R. Vance Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher license who are from Tennessee. 

Charles Whitcombe Memorial Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

Louise Manning Wiley Fellowship. Preference given to fifth-year teacher interns seeking initial teacher license. 

James Wolfkill Scholarship. Given to an outstanding student in the School of Journalism. 

Richard Worden Scholarship. Given to an outstanding Journalism student. 

Dr. Betty Broman Textbook Scholarship. Awarded to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

Paul C. Burns Memorial Scholarship. Awarded to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

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Scott County Intern Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher license. 

R.R. Vance Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher license who are from Tennessee. 

Charles Whitcombe Memorial Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher license in Elementary Education. 

Louise Manning Wiley Fellowship. Preference given to fifth-year teacher interns seeking initial teacher license.
Dr. A. Paul Wishart, Sr. Science Scholarship. Preference given to fifth-year teacher in tenured track who has received initial teacher license in science.

Dr. Richard W. Yoakley Fellowship. Awarded to a student in chemical engineering.

COLLEGE OF ENGINEERING

Allen and Hoshall Engineering Scholarship. Awarded to a student from a Tennessee high school enrolled or admitted into mechanical, electrical or chemical engineering.

American Chemical Society. East Tennessee Section of American Chemical Society offers an award to the outstanding senior in chemical engineering.

American Institute of Aeronautics and Astronautics. Awarded to an outstanding student in aerospace engineering.

American Institute of Chemical Engineers. Preference given to a junior or senior with demonstrated leadership.

American Society of Civil Engineers. Preference given to a member of the student section for outstanding contribution to the department.

American Society of Mechanical Engineers. Preference given to a student in mechanical engineering.

Boeing Company Scholarship. Preference given to a junior or senior in aerospace engineering.

Hughes Hall Memorial Scholarship. Preference given to a co-op student with good academic standing.

S.T. Harris Scholarship. Preference given to a student in electrical engineering.

Honors and Awards

Grace O. Davis Scholarship. Preference given to an outstanding junior in aerospace engineering.

Charles H. Dean Scholarship. Preference given to a student with a strong academic record.

Nathan W. Dougherty Scholarship. Preference given to the outstanding junior in chemical engineering.

Dow Outstanding Junior Award. Preference given to a student with a strong academic record.

Eastland Family Scholarship. Preference given to an outstanding junior or senior in engineering.

Joel F. Bailey Scholarship. Preference given to a student with a strong academic record.

J.Callaway Scholarship. Preference given to a student with a strong academic record.

Henry A. Haensler Engineering Scholarship. Preference given to a student with a strong academic record.

Hughes Hall Memorial Scholarship. Preference given to a co-op student with good academic standing.

S.T. Harris Scholarship. Preference given to a student with a strong academic record.

C. Edward Ferris Scholarship. Preference given to a student with a strong academic record.

Finnin Family Scholarship. Preference given to a student with a strong academic record.

Herschel and Louise Brand Scholarship. Preference given to a student with a strong academic record.

Joel F. Bailey Scholarship. Preference given to an outstanding junior or senior in engineering.

J.Callaway Scholarship. Preference given to a student with a strong academic record.

J. Callaway Scholarship. Preference given to a student with a strong academic record.

James L. Howard Scholarship. Preference given to an outstanding senior in engineering.

Leonard and Betty Shealy Scholarship. Preference given to a student with a strong academic record.

Martin Company Scholarship. Preference given to a student with a strong academic record.

Randall K. Nutter Scholarship. Preference given to a student with a strong academic record.

Robert and Allienne Lay Scholarship. Preference given to a student with a strong academic record.

Homer F. Johnson Chemical Engineering Scholarship. Preference given to a student with a strong academic record.

Powell Alumni Engineering Scholarship. Preference given to a student with a strong academic record.

Randall K. Nutt Scholarship. Preference given to a student with a strong academic record.

Racheff Scholarship. Preference given to a student with a strong academic record.

Leonard and Betty Shealy Scholarship. Preference given to a student with a strong academic record.
Honors and Awards


Charles Francis Shultz Scholarship. Awarded to an upperclassman who is a resident of Tennessee or Kentucky based on financial need and good academic performance.

Burton B. Simcox Chemical Engineering Scholarship. Awarded annually to outstanding incoming chemical engineering freshman. Covers in-state fees for freshman year.

Spickard Family Scholarship. Awarded to a full-time student with financial need and good academic performance.

E. Eugene Stansbury Scholarship. Given to a student in materials science and engineering based on contribution to the science of metallurgy and potential for such contribution.

Tau Beta Pi Outstanding Senior Award. Given by the Tennessee Alpha Chapter. Recognition of a senior in engineering who displays outstanding service, leadership and scholarship. Name on plaque, cash award.

J.W. Longston Rotar Builders Scholarship. Civil engineering students get priority for award and is based on academics and financial need.

J. Mac Tucker Outstanding Senior Award. Recognition by the Student Section of the American Society of Mechanical Engineers of the outstanding senior in the Department of Mechanical and Aerospace Engineering. Award is based on leadership, scholarship and service. Name on plaque.

University of Tennessee Book and Supply Store Award. An electronic calculator awarded each term chosen by departmental committees in rotation. Given to an upperclassman on the basis of need and demonstrated academic performance.

Anthony J. Vest Scholarship. Awarded to students from Dobyns-Bennett High School, Kingsport, TN, or other Kingsport high schools.

Frederick B. Vreeland Scholarship. Awarded to industrial engineering students on the basis of character and academics.

Charles Weyer Engineering and Band Scholarship. Awarded to a freshman, fully enrolled in engineering and the Pride of the Southland Marching Band. Available for four years with successful academic performance.

H.L. Weissberg Memorial Award. An annual award given by the department to an outstanding senior majoring in engineering science. Letter of recognition, plaque.

John H. Winstead Memorial Scholarship. Awarded to student with high academic standing and financial need.

Arthur Brownlow Wood Memorial Scholarship. Given on the basis of academic achievement and financial need.

COLLEGE OF HUMAN ECOCLOGY

Ida A. Anders Scholarship. Awarded to graduate students in Retailing and Consumer Sciences and Textile Sciences.

Dorothia H. Barton Scholarship. Awarded to an outstanding junior in all majors except hotel and restaurant administration.

Margaret Cornella "Connie" Rankin Brock Scholarship. Awarded to a freshman with preference going to a student from McMinn or Polk Counties.

Catherine Burton Chi Omega Scholarship. Awarded to junior women.

Campbell County Farm Bureau Scholarship. Awarded to a student in Human Ecology or Agriculture.

Edward C. and Catherine D. Cifers Scholarship. Awarded to students in all majors.

Commercial Interiors Entrepreneurial Scholarship. Student in any Human Ecology major must exhibit an entrepreneurial spirit as evidenced through work experience and extra-curricular activities.

Nelle Crooks Award. Awarded to an outstanding student.

Elia J. Day Scholarship. Awarded to a rising junior or senior in Child and Family Studies.

Frank and Ruth Liggett DeFries Scholarship. Awarded to a human ecology student annually.

General Human Ecology Scholarship Fund. Awarded to upperclassman or graduate in the College of Human Ecology.

Goody's Family Clothing Scholarship in Retailing. Awarded to students who are outstanding in Retail and Consumer Sciences.

June Gorski Endowment for graduate students in Public Health.

Green Family Scholarship. For needy Child and Family Studies majors.

Irene Hill Greene and Condo L. Greene Memorial Scholarship. Awarded to student from Anderson County.

Ann McGuire Grooms, M.D. Scholarship. Awarded to students entering the junior or senior year of study.

Joseph K. Hach Family Scholarship. Awarded to hotel and restaurant administration students.

Helen Sharp Hakala Scholarship. Awarded to an outstanding Human Ecology student.

Jessie W. Harris Scholarship. Awarded to junior and senior with highest scholastic record.

Ruth Huemmen Fellowship. For graduate students in Public Health Nutrition.

Fred Hurst Scholarship. Awarded to students in all majors.

Buford and Beatrice Irwin Scholarship. Awarded to students from Claiborne and Rutledge Counties.

Jefferson County Cooperative Scholarship in Agriculture. Shared with Agriculture.

Edith N. Jessop Scholarship. Awarded to deserving students in Recreation and Leisure Studies.

Kappa Omicron Nu. Awarded by the home economics honor fraternity.

Knoxville A La Carte Scholarship. Awarded to students in Hotel and Restaurant Administration.

Lewisohn Scholarships. Endowed by Frederick Lewisohn. Ten, variable.

Inez Loveace and Lavern Lovelace McKenney Scholarship. Awarded to an outstanding Human Ecology student.

Dr. James D. Marsh Memorial Scholarship Fund. Awarded to deserving junior or senior high schoolalumnus for majors in Technology Education.

Nancy McClary McAllister and Lewis W. McAllister Scholarship. Awarded to graduate students in Child and Family Studies.

Jacquelyn Hobbs McInnis Family and Consumer Sciences Internship Award. Awarded to a student enrolled in the secondary school internship program.

Bernadine Meyer Professional Development Fund. Awarded to students enrolled in any major in the College of Human Ecology.

Clarence Hillman Moody Scholarship. Awarded to a student from Carroll or Henry County.

Sylvia and Bill Moore Scholarship. Awarded to a senior in child and family studies.

James D. and Monica Moran Awards. For graduate students in Human Ecology.

Nutrition Memorial and Honor Scholarship. Travel award for department majors.

Martha L. Peters Scholarship. Awarded to deserving student in Recreation and Leisure Studies.

Gertrude M. Porter Fellowship. Awarded to a graduate student in Public Health Nutrition.

Elleanor M. Pratt Human Ecology Scholarship. Awarded to students enrolled in any major in the College of Human Ecology.

D.W. Proffitt Foundation Scholarship. Awarded to graduating majors.

Hane Prout Fellowship. For students in Retailing and Consumer Sciences.

Bevill Hal Reagan Scholarship. Awarded to students in Hotel and Restaurant Administration.


Johnnie Rogers Scholarship. For needy Knox County students majoring in Nutrition.

Jane Savage Scholarship. Awarded to nutrition students.

Louis Sr. and Lydia B. Sellas Memorial Scholarship. Awarded to child and family studies majors.

Shelby Williams Scholarship. Awarded to hotel and restaurant administration students; preference given to students from Lakeway (Morristown) area; may be awarded to out of state students.


Patricia Grubbs Sherwood Scholarship. Awarded to a student from Blount County or East Tennessee.

SKAL Club of Nashville Scholarship. Awarded to Hotel and Restaurant Administration students.

Hazel Taylor Spitzle Graduate Fellowship. Awarded to doctoral students in Home Economics Education.

Sadie Katherine Stanton human Ecology Scholarship. Awarded to graduate students and graduating seniors in the College.

Connie Steel Scholarship. Awarded to an outstanding student in Human Ecology.

Tennessee Rehabilitation Corporation Scholarships. Ten awarded to college majors who have need and who are citizens of Tennessee from a rural area and who have an agricultural background.

Tony Torrice Environmental Education Graduate Fellowship and Research Award. Awarded to a student showing sowing outstanding professional promise and for research.

UTK Tourism, Food, and Lodging Scholarship. Awarded to upperclassman majoring in Hotel and Restaurant Administration.

George A. Wagener Graduate Scholarship. In Business Education for Masters or Doctorate students in Business Education.

Eleanor Waters Wilson Scholarship. Awarded to deserving students in Human Ecology.

George and Louise Zirkle Scholarship. Awarded to students in all majors in the College of Human Ecology.
COLLEGE OF NURSING

Baptist-Fields Minority Scholarship. Open to second semester junior and senior African-American nursing students who have demonstrated academic progress and financial need. Preference is given to native Tennesseans.

Theresa and Harold Dyer Fellowship. Variable amount awarded annually to native East Tennesseans or who plan to work in East Tennessee for at least three years after graduation. The student must be enrolled in one of the graduate programs of the College of Nursing. A student who has demonstrated successful academic performance and/or financial need.

Dale H. Goodfellow Scholarship. Awarded annually to a senior nursing student with above average academic performance and demonstrated excellence in acute care nursing practice.

Betty Jo McAfee Greene Nursing Scholarship. Open to junior or senior nursing students who have demonstrated academic achievement and financial need.

Sylvia Hart Scholarship Endowment. Open to full-time nursing student who has completed at least 50 hours of BSN curriculum, earned a B or higher in junior level nursing courses, and a GPA of 3.25 or higher.

Knoxville Academy of Medicine Alliance Scholarship. Available to junior and senior nursing students with a minimum GPA of 2.5. Based on financial need. Priority to Knox County residents.

Knoxville Orthopedic Clinic Scholarship. Awarded annually to a rising senior nursing student with a strong academic background, well developed clinical skills, and demonstrated financial need.

Susan Maples Scholarship. Awarded to a junior nursing student with proven academic achievement in first semester of junior year or a rising senior who has demonstrated abilities in the classroom and clinical area.

Susan Moeller Scholarship. Awarded each year to a senior student having a GPA of 3.0 or better in all nursing courses.

Sally E. Townsend Memorial Scholarship. Open to junior and senior nursing students with demonstrated abilities in the classroom and clinical area and financial need.

UT Hospital Auxiliary Nursing Scholarship. Available each year to either junior or senior students. Based primarily on financial need and preference is given to in-state students.

SCHOLARSHIPS

The University of Tennessee, Knoxville, wishes to express gratitude to the contributors and donors of the following scholarships:

Acacia Fraternity—John L. Wooten, Jr. Scholarship Fund
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Accounting Development Scholarship Fund
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The Roy and Mildred Acuff Scholarships in Music
Bill Adams Scholarship
Jennie M. Adcock Memorial Scholarship
Sol Adler Memorial Scholarship
AFG Industries Athletic Scholarship Endowment
Agricultural Communication Scholarship
Agricultural Engineering Scholarship
Agricultural Extension Education Scholarship
Aller Memorial Scholarship and Emergency Studies Aid
Air Force ROTC Detachment 800 Alumni Association Scholarship Endowment
Alcoa Foundation CBA Minority Scholarship
Alcoa Foundation Scholar Program in Engineering
Alcoa Foundation Scholarship in Law
Alcoa Foundation/MESP
Alcoa Foundation Scholarship in Transportation
Alcoa Foundation Scholarships
Alcoa Way Optimist Club Scholarship Endowment
Howard Admion Memorial Scholarship Fund
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Allied Scholars Program
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Alpha Delta Kappa—Agnes Shimp Roberts Scholarship Award
Alpha Gamma Rho Scholarship
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Joe Mac Alphin Memorial Scholarship Fund
Elise P. Alexander Scholarship—UT Knoxville
Allen Memorial Award Fund
Allen and Hoshall Engineering Scholarship Fund
Allied-Signal Scholarship Fund
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Alumni Scholarships
American Association of Cost Engineers
American Express Graduate Scholarship
American Express Graduate Scholarship
American Express Undergraduate Scholarship Fund
American Industrial Hygiene Foundation Fellowship
American Marketing Association Scholarship
American Nuclear Society Need Scholarship
American Society of Civil Engineers Student Chapter Scholarship
American Society of Real Estate Counselors
American Society of Women Accountants (Knox County)
American Welding Institute-ESM
Amoco Foundation
Ida A. Anders Scholarship Fund
Arthur Andersen Alumni Scholarship
Andersen Consulting Engineering Scholarships
Andersen Consulting Engineering Scholarship Fund
Anderson County Agricultural Scholarship
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Armstead Award in the College of Veterinary Medicine
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Max B. and Laelia Block Armstein Scholarship
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BankFirst Endowment in Finance
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Baptist Health System of East Tennessee and Fields Family African-American Undergraduate Nursing Scholarship Endowment
Barber & McMurphy Scholarship
Lois Beatrice Dunn Barbee Scholarship
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Fred Brown Minority Scholarship in Engineering
Grover C. Brown Memorial Scholarship Fund
Neil Mann Brown Scholarship in Agriculture
Neil Mann Brown Scholarship in Architecture
William Lester Brown Memorial Fund
Bette Berggruen Bryan Scholarship Endowment in Music
Pat and Frank Bryant Scholarship Fund
William P. Bryant Scholarship
BTF—Civil Engineering Scholarship
BTF—Industrial Engineering Scholarship Fund
BTF—Materials Science Scholarship
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Sam Burge Nursing Scholarship
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Eleanor Richards Burke Award
James Henry Burke Scholarship Endowment Fund in College of Law
Burkhart and Company Scholarship Endowment in Accounting
Burlington Industries Aid to Education Fund
Burlington Masonic Lodge Scholarship Endowment
Terry Burnette Art Endowment
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Ray and Ada Burns Scholarship
Catherine Burton Scholarship
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George S. Child, Jr. and Helen M. Child Memorial
James and Virginia Childress Scholarship
Mr. and Mrs. D.R. Chopra Memorial Engineering Scholarship Endowment
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Edward and Catherine Cifers Scholarship
Civil and Environmental Engineering Scholarship
Clyde Clapp Agricultural Scholarship
Charles Edward Clark III Memorial Scholarship
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Class of 1991 Dana Collier Scholarship
Claxton Philander Medal Scholarship
Evelyn and Jim Claxton Scholarship
Frank Clement/Cordell Hull Fund
Dan and Rosalind Clements Athletic Scholarship Endowment
Joel B. and Anna Clements Scholarship Endowment
O. H. Clements Memorial Scholarship Fund
Cleveenger-Redmond Scholarship
Jesse David Clett Memorial Scholarship
Randall Cline Memorial
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Coca-Cola Minority Scholarship
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Liton Cochran Band Scholarship
Cooke County Farm Bureau Agricultural Scholarship
Charlie and Mel Coffey Endowment in Exercise Science
William Coffield Memorial Fund
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Hugo Colditz Memorial Scholarship Fund
Cole-Franklin Sociology Scholarship
J.W. Cole Meat Scholarship and Award
Dr. William E. Cole Scholarship
R. Kay Coleman and Janice Montle Women's Soccer Scholarship Endowment Fund
College of Agricultural Sciences and Natural Resources
College of Business Minority Scholarship Fund
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Honors and Awards

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R. McDonald Gray Scholarship
Greater Knoxville Advertising Club Scholarship
Greater Knoxville Chamber of Commerce Teachers of the Future Scholarship
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John D. Harper Scholarship Endowment
Jessie W. Harris Memorial Scholarship Fund
Maiva Haan Harris Scholarship
Polly Anna Harris Mathematics Scholarship Fund
S. T. Harris Scholarship
John and Louise Harrison Social Work Endowment
Madge M. and David Harrison Scholarship
Julian Harris Memorial Scholarship in Journalism
John P. Hart Scholarship in Broadcasting
Sylvia Hart Nursing Scholarship
James A. and Natalie L. Hastman Scholarship Endowment
Jimmy and Dee Haslam Endowment in Marketing, Logistics and Transportation
Hastings Scholarship Endowment
Travis Hawk Fellowship Fund
Hawkins County Agricultural Extension Scholarship
Hawkins County Farm Bureau Agricultural Scholarship
Hawkins County Farm Bureau Agricultural Scholarship
Hawkins Farmers Cooperative Endowment
Ed Hawkins Memorial Scholarship Fund
William W. Hawkins Scholarship Fund
James Robert Hawthorne Music Scholarship
Maud Callaway Hayes Scholarship Endowment
William and Emma Hayes Memorial Agriculture Scholarship
M.A. Haward and W.H. Brown MBA Fellowship
William W. Hawkins Scholarship Fund
HCC Minority Graduate Fellowship
Michael Steven Head Memorial Scholarship Endowment
Damon Rivers Headden Memorial Scholarship
Helen Clift Headlee Headlin Memorial Scholarship
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Clyde M. Hoffman Memorial Scholarship
J. Wesley Hoffman Agricultural Scholarship
Alexander Hollaender Scholarship Fund
O.R. and F.R. Holley Memorial Scholarship Fund
J. Fred Holly, Sr. Endowment for Excellence in Economics
John Fred Holly, Jr. Memorial Scholarship
J. Fred and Wilma D. Holly Scholarship
Dr. Andrew D. Holt Scholarship Endowment in Marketing
Darrell W. Holt Scholarship Fund
Herb Holt Scholarship Fund
Holt/Howard Broadcasting Scholarship
Martha and Andy Lyons Scholarship
D. Frank Holtman Microbiology Scholarship Endowment
Ray Holton Botany Fund
Home Federal Bank of Tennessee Scholarship Endowment
Honors and Awards

Tri-Delt Transfer Student Award
Tony Torrice Educational Environments Graduate Fellowship and Research Award
Tourist Food and Lodging Scholarship
Beth A. Townsend Scholarship
Sally Townsend Scholarship
Toyota Scholarship
Toyota R Us Scholarship
Stephen R. Trotter Memorial Scholarship Fund
A. J. Trotter Scholarship Endowment Fund
TRW FDN Minority Scholars Program
R. S. Tucker Graduate Fellowship
Judith Turcott Special Service Moot Court Award
TV-A/MESP Minority Engineering Scholarship
TV-A Minority Forestry Scholarship
Veronica Tyler Minority Scholarship
John C. Tyson Minority Fellowship
United Handicapped Worker Scholarship
US Army Corp of Engineers Minority Scholarship
US Forest Service/MESP Scholarship
US Students Abroad Scholarship Fund
USDA African-American Scholarship in Animal Science
USDA Minority Forestry Scholarship
USDA 95 (Multi Cultural) Scholarship
USDA (Multi Cultural) Scholarship
University Book and Supply Store Scholarship
University Book and Supply Store Award (College of Business)
University Book and Supply Store Award (College of Engineering)
University Evening School Scholarship Fund
Upward Bound Scholarship
UT Chemistry Support
UT Federal Credit Union
UT Hospital Auxiliary Nursing Scholarship
UT Retiree Association Scholarship
UT Singers Scholarship Fund
The UTK Black Alumni Association Scholarship Endowment Fund
UTK College of Nursing Scholarship
UTK General Scholarship Fund
UTK Piano Scholarship Competition
UTK School of Architecture Endowment Fund
UTK Math Enrichment Scholarship
UTK Senior Class Scholarship
UTK Tourism, Food and Lodging Scholarship
UTK-UTCHS Graduate Program in Medical Ethics
UWA Employee Scholarship
R.R. Vance Scholarship in Education
Blanche Vaughn Women’s Golf Endowment
Lee L. Verstandig Scholarship
Anthony L. Vest Engineering Scholarship Endowment
Annette Roberson Vestal Endowment
Veterans Emergency Loan Fund
The Viar Family Athletic Scholarship Endowment
John M. and Manora C. Viles Scholarship Fund
Carl A. Vines Scholarship
Georgiana Fry Vines Scholarship Fund
Vinson and Elkins Scholarship and Award Fund
Visual Arts Committee Scholarship
Vocational Agriculture Education Fund
Volunteer Human Resources Scholarship
Volunteer Torch of Service Scholarship
Frederick B. Vreeland Scholarship Fund
Dwight R. and Kate Reagan Wade College Scholar's Endowment Fund
T. Robert Hill-Frankie Ellis Wade Trial Lawyers Scholarship Fund
Tom and Patii Wade Scholarship
The Wagner Scholarship
George A. Wagoner Graduate Scholarship in Business Education
Fred Collins Walker Scholarship Fund
Gary Frank Wallace Scholarship
Walker, Lander, Dorst, and Davis Scholarship
Professor James Walls Geology Award
Waltec Past Chairman's Scholarship
Herbert S. Walters Scholarship Endowment
Dean Frank B. Ward Memorial Scholarship Fund
Burchfield Burrage Warren Graduate Fellowship in Chemistry
Charles and Myrtle Warner Memorial Law Scholarship
Harold C. Warner Centurion Scholarship
Washington Farmers Cooperative Scholarship
Eugene and Mildred Waters Memorial Scholarship
John and Patsy Law Waters Scholarship
Ira A. Watson Retiring Scholarship
Wattie Scholarship
William Way Memorial Scholarship
William Way, Jr. Scholarship Fund
Charles Weaver Engineering and Band Scholarship Endowment
George T. Waud Memorial Scholarship
Brig. General G. H. Weems Scholarship
Charles M. Welch Athletic Scholarship Endowment
Dr. G. Ray Wells Memorial Scholarship
Horace V. Wells Scholarship Fund
The West Knoxville Sertoma Club Scholarship Endowment
Col. Jack K. Westbrook ROTC Scholarship Endowment
Westinghouse/MESP Minority Engineering Scholarship
Dan B. Wexler Agriculture Scholarship Fund
Wharton Scholarship Fund
Joe and Marianna Wheeler Scholarship
White Lily Consumer Services Internship Fund
White Stores Scholarship
Charles F. Whiteside Memorial Scholarship Fund
Chris Whittle Scholarship Fund
Whittle Scholarship
William H. Wicker Law Scholarship Fund
Louise Manning Wiley Fellowship
Howard and Ruby Wilkerson Scholarship
Leslie M. Williams Scholarship
Marjorie Wilkinson Scholarship
Shelby Williams Scholarship
Shelley Williams Travel Scholarship
Shelley Williams Portfolio Scholarship
Willeallor English Scholarship Endowment
Wilson Farmers Cooperative Scholarship
Deborah and Jeffrey Wilson Scholarships
Elizabeth Waters Wilson Scholarship
Frank W. Wilson Scholarship Fund
H.W. Wilson Scholarship Fund
Tony Wilson Memorial Scholarship Fund
John H. Winstead Jr. Memorial Scholarship
John Q. and Wanda Weskeer Scholarships
Dr. A. Paul Wishart, Sr. Scholarship Fund
Kent Withers, Jr. Gott Scholarship Endowment
Ronald Wolf Excellence in Economics Endowment
Singleton Wolfe Scholarship Endowment
James Wolfkell Scholarship in Graphic Arts
William E. Woodruff Scholarship
Margaret Woodruff Award Fund
Margaret A. Woodruff Scholarship in Creative Writing
Arthur Brownlow Wood Memorial Scholarship
George and Martha Wood Scholarship Fund
Pat Wood Family Endowment Fund in Marketing
Chancellor Glenn W. Woodlee Scholarship
John Wooten Scholarship Endowment Fund
Richard Wordon Scholarship
Working Students Assistance Fund
Senator J. Parks Worley Scholarship
Jack Wright Memorial Scholarship Fund
James and Dora Wright Scholarship Fund
Gerti Wunderlich Fund in German
C.E. Wylie Scholarship
Elise Roby Yanders Marketing Scholarship Endowment
Arthur E. Yates Scholarship Fund in Arts and Sciences
Arthur E. Yates Graduate Fellowship
Yellow Freight Transportation Students Scholarship
Dr. Richard W. Yoakley Fellowship Endowment
Emily W. Yoakum Winners' Circle Basketball Scholarship Endowment
David A. York Scholarship Fund
Dr. William T. Cathy H. Youmane Scholarship Endowment
Zdziska Children Memorial Scholarship
George and Louise Zirkle Scholarship
Zukerman Family Scholarship Endowment
Edwin F. Zwicker Memorial Scholarship in the Agricultural Plant and Sciences