Courses of Instruction

Following certain course descriptions in this catalog are the designations F, Sp, Su, A, D, A-E. These indicate the semesters Fall, Spring, Summer, Alternate Fall, Alternate Spring, or Alternate Summer 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. Prereg: Precalculus Mathematics 110 or 123. E

202 Principles of Managerial Accounting (3) Introduction to managerial and cost accounting concepts with emphasis on use of accounting data by managers in planning, operating, controlling, and decision-making. Prereg: 201. E


312 Cost and Managerial Accounting (3) Analysis of costing procedures, cost-volume-profit analysis, and cost behavior and its effects on decision-making. Topics include cost behavior, cost prediction, budgeting, and managerial accounting. Prereg: Precalculus Mathematics 301. E


345 Auditing (3) Auditing methodology, internal control, and statistical sampling in auditing. Prereg: Accounting 202 or Management 202. F, Sp

411 Financial, Compliance, and Operational Auditing (3) Role of auditing in society with an emphasis on the auditor's role in Society. Prereq: Accounting 341 or consent of instructor. F, Sp

415 Governmental and Nonprofit Accounting (3) Continuation of 311 with emphasis on governmental and not-for-profit accounting. Prereq: 311 with a C or better. E

416 Financial, Compliance, and Operational Auditing (3) Role of auditing in society with an emphasis on the auditor's role in Society. Prereq: 341 or consent of instructor. F, Sp

480 Accounting Issues (3) Examination of the role of accounting in society and controversies surrounding accounting practice. Prereg: 201 or Management 301.

490 Special Topics (3) Detailed study of a specialized aspect of accounting. Topics vary by semester and include advanced auditing techniques, budgeting and strategic planning, financial statement analysis, and environmental accounting. May be repeated once. Prereg: Progression as a junior major. F, Sp

493 Independent Study (1-3) Individual study in a specialized area under the supervision of a faculty member. Prereg: 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 from the Civil War to the Civil Rights era which focuses on such topics as African-American urban and rural societies, the African-American church and education, African-American intellectual and political developments, and slavery and state from the turn of the century.

203 Introduction to African Studies (2) The Multidisciplinary study of Africa and its incorporation into the world economy since the sixteenth through the twentieth century. Include the role of nationalism, post-colonial dependency, contemporary problems, and current liberation struggles in various areas of the continent.

319 Introduction to African-American Music (3) Same as Music History 319. E

321 Introduction to African Studies (3) Same as Language Studies 321. E

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

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

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

360 Advertising Media Strategy (3) Assessment of advertising techniques and strategies and their role in the business world. Prereq: 250, Communications 250. E

450 Advertising Management (3) Case-study approach to advertising management. Prereq: 250 or permission of instructor. E

460 Advertising Campaigns (3) Group-based development, execution, and evaluation of an advertising campaign for a regional or national client. Prereg: 400. E

479 Advertising Campaigns (3) Group-based development, execution, and evaluation of an advertising campaign for a regional or national client. Prereg: 400. E

480 Advertising Issues (3) Examination of the role of advertising in society and controversies surrounding advertising practice. Emphasize on written and oral exposition of different viewpoints. Prereg: 400, F, Sp

485 Special Topics (3) Detailed study of a specialized aspect of accounting. Topics vary by semester and include advanced auditing techniques, budgeting and strategic planning, financial statement analysis, and environmental accounting.
493 Independent Study (1-15) Prereq: 201-202 and consent
491 Foreign Study (1-15) Prereq: 201-202 and consent
(3) Focuses on historical and contemporary social, economic and political systems and mechanisms. Writing emphasis course.
483 African-American Women in American Society (3) Analyzes the role of the family, white males, while focusing on sociocultural attitudes and definitions of African-American men.
482 African-American Communities in Urban America (3) Examine the roles of the church, the family, and the school in helping African-American youth to succeed. Includes discussion of how structural racism is utilized by Black people in developing coping strategies and mechanisms.
481 African-American Men in American Society (3) Focus on historical and contemporary social, economic and political trends in African society as it relates to specific African-American women. Writing emphasis course.
442 Comparative Poverty and Development (3) (Same as History 421) Prereq: 201-202 and consent. Students design and implement a research project of their choice in the field of African-American studies. Prereq: 201-202 and senior standing. Writing emphasis course.
438 Research Seminar in African-American Studies (2) Teaches basic approaches in the research process and development of research skills. Students design and implement a research project of their choice in the field of African-American Studies. Prereq: 201-202 and senior standing. Writing emphasis course.
433 Foreign Language Study (2) (Same as Religious Studies 372 and Anthropology 373) Prereq: African and Asian Languages 101. Writing emphasis course. (Same as History 423.)
429 History and Philosophy of African-American Studies (3) Focuses on attempts by African-American students to acculturate an acculturation of themselves and their children from the era of slavery to the Brown decision in 1954. Examines black perceptions of the importance of education and special challenges confronting African-Americans who seek education on the primary, secondary, college, undergraduate level. Writing emphasis course.
428 African-American Communities in Urban America (3) Examine the roles of the church, the family, and the school in helping African-American youth to succeed. Includes discussion of how structural racism is utilized by Black people in developing coping strategies and mechanisms.
371-372 African History (3, 3) (Same as History 371-372) Prereq: Consistent with the major. Writing emphasis course. (Same as History 424.)
363 Natural Resource Economics (3) Nature of natural resources, economic efficiency as a basis for natural resource management decision problems in forest and non-forest agribusiness settings. Case study work on specific topics. Student must arrange with instructor for specific topics. Instructor's permission required. S/NC. Sp, Su
359-360 Strategies for Teaching and Program Planning in Agriculture (3) Methods for developing teaching and administrative programs, conducting leadership development activities through the Future Farmers of America, and methods for student development in agriculture. F
356 Strategies for Teaching and Program Planning in Agriculture (3) Methods for developing teaching and administrative programs, conducting leadership development activities through the Future Farmers of America, and methods for student development in agriculture.
355 Agricultural Policy (3) Values, goals and policy objectives, objectives, opportunities, and placement process. Analysis of present and past policies influencing national and international food, agricultural, and related industries. Prereq: Junior standing. E
354 Agricultural Price Analysis (3) Analytical tools for analyzing market trends and price movements. Analysis of international trade and commodity markets. Techniques to obtain employment including developing a career blueprint and understanding job opportunities. Prereq: Junior standing. E
352 Agricultural Finance (3) Macro-finance, financial objectives, opportunities, and placement process. Analysis of contemporary and traditional agricultural enterprise and businesses. Financial and economic processes, business management decision making processes, capital management of capital, labor, land and machinery management and management of capital, labor and machinery management. Prereq: Economics 201 and junior standing.
351 The Agricultural Marketing System (3) Survey of U.S. food and fiber system marketing functions, marketing channels, marketing climate, marketing cost of living, and marketing consumer behavior. Prereq: Economics 201 and junior standing.
350 Agribusiness Marketing and Professional Selling (3) Role of marketing in the agribusiness organization. Planning, implementing, and evaluating marketing strategies. Decision making and use of modern marketing techniques. Student will engage in role playing, targeted marketing, and role playing assignments. Prereq: Economics 201.
342 Farm Business Management (3) Principles and procedures for determining most profitable business operations. Objectives of farm planning: attention to traditional and nontraditional agricultural enterprises and businesses, processes, understanding of management, management of capital, labor and machinery management and management of capital, labor and machinery management. Prereq: Economics 201 and junior standing.
335 The Agricultural Marketing System (3) Survey of U.S. food and fiber system marketing functions, marketing channels, marketing climate, marketing cost of living, and marketing consumer behavior. Prereq: Economics 201.
334 Agricultural Price Analysis (3) Analytical tools for analyzing market trends and price movements. Analysis of international trade and commodity markets. Techniques to obtain employment including developing a career blueprint and understanding job opportunities. Prereq: Junior standing. E
333 Agricultural Policy (3) Values, goals and policy objectives, objectives, opportunities, and placement process. Analysis of present and past policies influencing national and international food, agricultural, and related industries. Prereq: Junior standing. E
332 The Employment Process (1) Assist student in becoming aware of the career opportunities and the preparation for entering the labor force. Preparation of resume, understanding job opportunities, preparing interview, and interviewing process. Prereq: 201-202 and senior standing. Writing emphasis course.
331 Independent Study (1-9) Prereq: 201-202 and consent of instructor.
320 Opportunities in Agricultural Economics and Related Programs (0-8) Supervised work experience in approved agricultural and related agencies. (Requires living off-campus.) Prereq: 201-202 and senior standing. Writing emphasis course. Prereq: 201-202 or consent of instructor. F, Sp
310 Introduction to Agricultural Economics (1) Probability, finance, and non-manipulative. Satisfactory/No Credit grading only. Prereq: 201-202 and senior standing. Writing emphasis course.
306 Strategic Marketing and Management (1) Role of marketing in the agribusiness organization. Planning, implementing, and evaluating marketing strategies. Decision making and use of modern marketing techniques. Student will engage in role playing, targeted marketing, and role playing assignments. Prereq: Economics 201.
world population. Topics to include basic natural re-
sources, current problems in agriculture, forestry, and
food production, and principles related to quality of the
wildlife, such as wildlife and landscape design.
This course may not be used by College of Agriculture,
Soil Science and Natural Resources students to satisfy
the core elective requirements.

AFRICAN HISTORY (3-3,3)
318-322 History of African Civilization (2-2)
Provides an overview of the major themes and issues
in African history, emphasizing the impact of colonialism
and post-colonial societies on modern Africa.

AMERICAN STUDIES (309)
316 Introduction to American Studies (3) Focuses
on the organization of the United States. Emphasizes
the concepts being studied. A mandatory weekly Lead-
er Laboratory provides advanced leadership and
management experiences for horse care. The basic
management procedures for horse care. The basic
behavioral characteristics of the horse, an understand-
ing of his physical and mental parameters and their use
in training.

ANCIENT MEDIEVAL CIVILIZATIONS (101)
316 Ancient Near Eastern Civilization (3) Same
as History 440.
318 Classical Civilization (3) Same as Classical 380.
319 Roman Civilization (3) Same as Classical 380.
320 The Physiology of Reproduction and Lactation
emphasized. 3-2-3 hours labs. F
321 Animal Nutrition, Feeds, and Ration Formu-
lation (4) Properties, functions, utilization, and deficiency
of feedstuffs and principles of ration formulation.
Preparation for chemistry 180 and Math 101.
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342 Animal Nutrition, Feeds, and Ration Formu-
lation (4) Properties, functions, utilization, and deficiency
of feedstuffs and principles of ration formulation.
Preparation for chemistry 180 and Math 101.
489 Companion, Zoo and Lab Animal Management (3) Principles of nutrition, physiology, breeding, handling, and environmental control. Laboratory: Study animal behavior in the natural environment and in controlled situations. Prerequisite: Consent of instructor. 3 lectures and 1 lab. F, Sp

486 Lamb and Wool Production and Management (3) Integration of principles of nutrition, breeding, physiology, and management into complete production and management programs. Procedures of industry, genetic improvement, production practices, and improvement programs. Management evaluated in terms of production responses and economic returns. Prerequisite: Completion of Animal Science sophomore and junior core courses. 2 hours and 1 lab. Sp

485 Horse Production and Management (3) Integration of principles of nutrition, breeding, physiology, and management into complete production and management programs. Procedures of industry, genetic improvement, production practices, and improvement programs. Management evaluated in terms of production responses and economic returns. Prerequisite: Consent of instructor. 2 lectures. F

484 Poultry Production and Management (3) Integration of principles of nutrition, breeding, physiology, and management into complete production and management programs. Procedures of industry, genetic improvement, production practices, and improvement programs. Management evaluated in terms of production responses and economic returns. Prerequisite: Consent of instructor. 2 lectures. F

483 Pork Production and Management (3) Integration of principles of nutrition, breeding, physiology, and marketing into complete production and management programs. Procedures of industry, genetic improvement, production practices, and improvement programs. Management evaluated in terms of production responses and economic returns. Prerequisite: Consent of Animal Science sophomore and junior core courses or consent of instructor. 2 hours and 1 lab. Sp

482 Dairy Cattle Production and Management (3) Integration of principles of nutrition, breeding, physiology, and management into complete production and management programs. Procedures of industry, genetic improvement, production practices, and improvement programs. Management evaluated in terms of production responses and economic returns. Prerequisite: Consent of instructor. 2 lectures. No credit. F, Sp

496 Veterinary Medical Technology (1) For Animal Science and/or Animal Science Pre-Veterinary Medicine Majors only. Consent of instructor required. 1 lab. Sp

495 Seminar (1) Review of literature and oral and written presentation on special topics and current research in Animal Science field. Prerequisite: Senior standing. 1 two-hour lab. F, Sp

494 Animal Science Teaching Assistant (1) Assist the primary instructor in laboratory instruction and demonstrations. Prerequisite: Senior standing and consent of the instructor and Department Head. S/NC. E

493 Advanced Ration Formulation (2) Advanced ration formulation for beef and dairy cattle, sheep, hogs, and poultry. Emphasis on formulation of rations to provide for沐浴 nutritional needs of each species, and on the economic returns to the user of the ration. Prerequisite: 330 and introductory computer science course. 2 labs. Sp

431 Ethnographic Research (3) Conceptual and practical exploration of methods and techniques cultural anthropology uses in fieldwork and analysis of field data. Prerequisite: Consent of instructor. 3 seminars.

430 Fieldwork in Archaeology (3-9) Practicum work in archaeological data recovery and analytical techniques. Prerequisite: Consent of instructor. May be repeated. Maximum 9 hours.

414 Political Anthropology (3) Examination of the organization and dynamics of power and politics in both stateless and state societies. Prerequisite: 130 or consent of instructor. Writing-emphasis course.

412 Folklore in Anthropology (3) Introduction to anthropological study of folklore, including folklore and folklorematerials from various tribal, peasant, and complex societies. Prerequisite: 130 or consent of instructor. 3 seminars.

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

400 Readings in Anthropology (1-6) Problem-oriented directed readings in anthropology. Prerequisite: Consent of instructor and Department Head. May be repeated. Maximum 6 hours.

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

363 Prehistory of Tennessee (3) Archaeological principles and theory illustrated in history of archaeological research in Tennessee and throughout the southeastern United States from earliest dated human cultures to rise of complex civilizations. Recommended: 360. Writing-emphasis course.

361 Historical Archaeology (3) Historical archaeology of Euro-American, African-American, and Asian-American cultures in the United States from 16th to 20th centuries.

360 North American Prehistory (3) Survey of Native American cultures from earliest occupation of the continent to rise of complex civilizations. Prerequisite: Consent of instructor. Writing-emphasis course.

357 Junior Honors in Anthropology (3) Analytical, interpretative course of research in anthropology. Open to undergraduates with an overall GPA of 3.2 and permission of the instructor. Consent of instructor recommended. 2 lectures and 1 lab. F

343 Dynamic Models of Culture (3) Definition and development of theoretical models of culture change. Prerequisite: Consent of instructor. Writing-emphasis course.

342 Principles of Archaeology (3) Research methods used in developing theory and research, definition and testing hypotheses, testing and revising explanations of cultural change. Prerequisite: Consent of instructor. 2 seminars and 1 lab. F

341 Biological Anthropology (3) Analysis of evolutionary relationships of human and nonhuman primates. Prerequisite: Consent of instructor. Writing-emphasis course.

340 Anthropology Field School (1-6) Field school experience in cultural anthropology. Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.

330 Advanced Ration Formulation (2) Advanced ration formulation for beef and dairy cattle, sheep, hogs, and poultry. Emphasis on formulation of rations to provide for the nutritional needs of each species, and on the economic returns to the user of the ration. Prerequisite: 330 and introductory computer science course. 2 labs. Sp

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

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

319 Caribbean Cultures and Societies (3) Anthropological approach to history and modern cultures of Caribbean peoples, including plantation slavery, patterns of economic development, and local and regional-level political processes. Prerequisite: Consent of instructor. Writing-emphasis course. Prerequisite: Same as African-American Studies 319 and Latin American Studies 319. 3 seminars.

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

317 Indians of Northwestern North America (3) Survey of American Indian cultures found in the Northern Great Basin, Columbia Plateau, and Northern Great Basin culture areas.

275 Junior Honors in Anthropology (3) Analytical, interpretative course of research in anthropology. Open to undergraduates with an overall GPA of 3.2 and permission of the instructor. Consent of instructor recommended. 2 lectures and 1 lab. F

272 Principles of Archaeology (3) Research methods used in developing theory and research, definition and testing hypotheses, testing and revising explanations of cultural change. Prerequisite: Consent of instructor. Writing-emphasis course.

255, patternsof economic development, and local and national-level processes. Prerequisite: Consent of instructor. Writing-emphasis course. Prerequisite: Same as African-American Studies 319 and Latin American Studies 319. 3 seminars.

254 Cultural Anthropology (3) Major concepts and methods in the study of culture. Survey of cross-cultural values to form a basis for cross-cultural comparison, evaluation, and interpretation. Prerequisite: Consent of instructor. Writing-emphasis course.

253 Human Origins (3) Survey of humanity’s background, fossil human remains, and living races of mankind. Prerequisite: Consent of instructor. 3 seminars.

250 Prehistoric Archaeology (3) Introduction to the organization and dynamics of power and politics in both stateless and state societies. Prerequisite: Consent of instructor. Writing-emphasis course.

249 Historical Archaeology (3) Historical archaeology of Euro-American, African-American, and Asian-American cultures in the United States from 16th to 20th centuries.

248 Principles of Archaeology (3) Research methods used in developing theory and research, definition and testing hypotheses, testing and revising explanations of cultural change. Prerequisite: Consent of instructor. Writing-emphasis course.

247 Political Anthropology (3) Examination of the organization and dynamics of power and politics in both stateless and state societies. Prerequisite: Consent of instructor. Writing-emphasis course.

246 Readings in Anthropology (1-6) Problem-oriented directed readings in anthropology. Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.

244 African-American Anthropology (3) (Same as African-American Studies 315.)
Introduction to laboratory use of comparative collections. May be repeated. Maximum of 6 hours.

ARCHITECTURE (133)
134 Introduction to Architectural Environment (3) Scope and definition of the building environment in relation to contemporary society, building industry, and design. Emphasis on stress placed on the building environment as a creative process. Prerequisite: Courses 102, 103, 410, or consent of instructor.

202 Visual Design Theory (3) Principles of visual design, addressing form and space. Exploration of visual design across history. Introduction to terminology and vocabulary. Coreq: 172. Sp

111 Architecture and the Built Environment (3) An introduction to architecture and the built environment for non-architecture majors. Significance of our built environment, forces that shape it. Creative aspects of design. Survey of examples from local to global. Strategies for individual and collective involvement.

132 Drawing and Perception (2) Exploration of drawing as a means of visual thinking and a method of communication, addressing process of abstraction and transformation in the creation and exploration of drawing. Drawing as a means of visual thinking and a method of communication. Prerequisite: Consent of instructor.

131 Architecture and the Built Environment (3) An introduction to architecture and the built environment for non-architecture majors. Significance of our built environment, forces that shape it. Creative aspects of design. Survey of examples from local to global. Strategies for individual and collective involvement.

201 Introduction to Graphic Design (2) Introduction to drawing and writing with an emphasis on the fundamentals of graphic design. Involves all forms of visual communication. Prerequisite: Consent of instructor. Coreq: 172.


4 Introduction to Architectural Design (3) Introduction to the fundamentals of construction, materials and statutes in a lecture/seminar format.

321 History and Theory of Contemporary Architecture (3) Architecture through the ideas and form of contemporary architecture. Involves all forms of visual communication. Prerequisite: Consent of instructor. Coreq: 172.

320 History of Architecture and Art (3) An examination of architectural form emphasizing building configuration and the landscape in architectural design. Method of analyzing place and form in determining design strategies. Representational skills developed including drawing, diagramming and modeling techniques. Prerequisite: Consent of instructor. Coreq: 172.

322 Architectural Design II (Studies in architectural space. Three dimensional form, movement, structure and space as determinants of spatial form explored through a series of design projects ranging in scale from furniture to buildings. Developmental design processes, including architectural strategies, diagramming, and determining design organizational strategies. Use of computer aided visualization techniques. Prerequisite: Consent of instructor. Coreq: 271.

323 Principles of Architectural Form (3) Principles of architectural form emphasizing building configuration and the landscape in architectural design. Method of analyzing place and form in determining design strategies. Representational skills developed including drawing, diagramming and modeling techniques. Prerequisite: Consent of instructor. Coreq: 172.

324 Principles of Architectural Design I (Principles of architectural design emphasizing the function, simulation, structure, technology, context and expression of buildings. Identification of material selection and the role of design in building selection and design. Prerequisite: Consent of instructor. Coreq: 271.

325 Architecture Structures (3) Structural properties of materials and their application in architecture. Emphasis on the role of structural members in determining design strategies. Use of computer aided visualization techniques. Prerequisite: Consent of instructor. Coreq: 271.

331 History of Architecture and Art (3) History and theory of architectural style. Involves all forms of visual communication. Prerequisite: Consent of instructor. Coreq: 172.

332 Architectural Structures II (3) Continuation of analysis of and design of simple structures of wood, wood and concrete. Development of design processes, including all forms of visual communication. Prerequisite: Consent of instructor. Coreq: 331.

333 Advanced Architectural Structures (3) Philo-sophy and design in relation to materials and forms. Involves all forms of visual communication. Prerequisite: Consent of instructor. Coreq: 331.

334 Advanced Architectural Structures (3) Continuation of analysis of and design of simple structures of wood, wood and concrete. Development of design processes, including all forms of visual communication. Prerequisite: Consent of instructor. Coreq: 331.

281 Principles of Architectural Form (6) Principles of architectural design emphasizing the function, simulation, structure, technology, context and expression of buildings. Identification of material selection and the role of design in building selection and design. Prerequisite: Consent of instructor. Coreq: 271.

272 Architectural Design 1I (6) Studies in architectural space. Three dimensional form, movement, structure and space as determinants of spatial form explored through a series of design projects ranging in scale from furniture to buildings. Developmental design processes, including architectural strategies, diagramming, and determining design organizational strategies. Use of computer aided visualization techniques. Prerequisite: Consent of instructor. Coreq: 271.

271 Architectural Design I (6) Principles of architectural design emphasizing the function, simulation, structure, technology, context and expression of buildings. Identification of material selection and the role of design in building selection and design. Prerequisite: Consent of instructor. Coreq: 271.

282 Principles of Architectural Design I (6) Principles of architectural design emphasizing the function, simulation, structure, technology, context and expression of buildings. Identification of material selection and the role of design in building selection and design. Prerequisite: Consent of instructor. Coreq: 271.

271 Architectural Design I (6) Principles of architectural design emphasizing the function, simulation, structure, technology, context and expression of buildings. Identification of material selection and the role of design in building selection and design. Prerequisite: Consent of instructor. Coreq: 271.
410 History and Theory of Urban Form (3) Patterns of community development. Selected historical and contemporary examples. Urban design ideas and exemplary design approaches examined through lectures, readings, essays, and studio studies including historical change in urban form and design.  
413 Tennessee Architecture (3) History of settlement patterns and building in Tennessee. Sceined examples examined through reading assignments, lectures, discussion, and field trips. Historical research using primary materials.

44 History of Architectural Technology (3) Building materials and construction techniques throughout the construction process.

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


48 The History of the Book (3) A survey of architecture of the book in the Western tradition from the Middle Ages to the present.

44 American Architecture, 1940 - 1980 (3) Subject periods from the Guth Revival through the Twentieth Century.

45 History of Landscape Architecture (3) Intellectual development of landscape architecture that describes the theoretical basis for design throughout history. Seminar. Seminars to fulfill the requirements will be available.

46 Modern and European Architecture (3) Twentieth century architecture in Russia, China, and Japan. India, Southeast Asia, Eastern Europe, East Germany, Poland, Yugoslavia.

47 Special Topics in Architecture (1-4) Faculty-initiated subjects. For students of architecture, graduate and undergraduate. Credit no more than 4 hours. (Approval required.)  
483 Intermediate Design and Color (3) Further exploration of three-dimensional modeling and techniques which influence the development of structures. Throughout the semester projects will address issues of design, construction, and content of design appropriateness. Design is expected to be evident in the design process, in building, and in the economy of materials, durability, quality, and classic architectural form.

484 Comprehensive Design Project II (3) Project course offered at convenience of department. Satisfactory/No credit only.

485 Comprehensive Design Project I (3) Project course offered at convenience of department. Satisfactory/No credit only.

486 Advanced Architectural Design Topics (3) Faculty-initiated design projects. Advanced architectural design topics not covered under 483, 484, 485, 486, or 489. 

487 Advanced Architectural Design Project II (6) Student-selected project under faculty direction. Exploration of design which will result in the development of a professional architectural project. The selected project will address the issues of design, construction, and content of design appropriateness. Design is expected to be evident in the design process, in building, and in the economy of materials, durability, quality, and classic architectural form.

488 Urban Design (3) Urban design projects responding to specific community conditions. Exploration of urban issues in making and understanding the architecture of the city. Preceding 482.

489 Structural Innovations (6) Building design with concern for the environment, consideration of seismic control techniques, and use of renewable resources. Preceding 472. 

490 Structural Innovations II (6) Building design with consideration of new materials and methods in building construction. Preceding 472. 

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

492 Off-Campus Study (1-15) Study tour abroad. Successfully completed. Preceding 483, 484, 485, or 486. 

493 Independent Study in Architecture (1-6) Individualized study and projects under faculty direction. Credit no more than 6 hours. 

494 Fine Art Studies in Krakow (3) Studio meets in Krakow, Poland. Fine art studio classes meeting to specific community conditions in an Eastern European city.

495 Sketchbook Study of Architecture in Central Europe and Krakow (3) Sketchbook tour and assignments in Krakow, Poland, Athens, and Eastern Europe and various tour formats.

496 Design Studies in Krakow (3) Studio meets in Krakow, Poland. Fine art studio classes meeting to specific community conditions in an Eastern European city.

497 Studio Fundamentals: Drawing and Design (2) Introduction to drawing, color theory, and techniques of architectural drawing. 

498 Professional Practice (3) Architectural and business practice, and the role of the architect in society. 

499 Architecture and Planning (3) Professional practice and community development.

500 Architecture and Urban Design (3) Urban design projects responding to specific community conditions. Exploration of urban issues in making and understanding the architecture of the city.

501 Topics in Architecture and Urban Design (1-6) Individual studies and projects under faculty direction. Credit no more than 6 hours. 


ART DESIGN/GRAPHIC (136)

191 Graphic Design History (3) Major movements and techniques of graphic design, and their impact on current graphic design trends. Cannot be used to fulfill art history requirement. May be repeated. Maximum 12 hours.

192 Introduction to Studio Art: Various Media (3) Individual sections for various art student disciplines. For non-majors only. May be repeated, maximum of 12 hours.


203 Principles of Designing (3) Survey of the elements and principles of design including layout and the relationship of design to the graphic arts. Prereq: 101. May be repeated. Maximum 12 hours.


211 Graphic Design II (3) Graphical design techniques and processes as applied to editorial illustration. Prereq: 205. May be repeated. Maximum 12 hours.

212 Graphic Design III (3) Continuation of the study of graphic design. Prereq: 211. May be repeated. Maximum 12 hours.

213 Graphic Design IV (3) Advanced study of graphic design. Prereq: 212. May be repeated. Maximum 12 hours.

215 Special Topics in Design (3-12) Student-initiated course offered at discretion of department. May be repeated. Maximum 12 hours.

219 Special Topics in Drawing/Painting (3) Student-initiated course offered at discretion of department. May be repeated. Maximum 12 hours.

220 Independent Study (1-15) May be repeated. Maximum 12 hours.

221 Portfolio Practicum - Handbuilding (3) Instructional and introductory studio experience to develop work for application to Ceramics Portfolio Review. Prereq: 320. May be repeated. Maximum 12 hours.

223 Portfolio Practicum - Throwing (3) Introductory post introductory studio experience to develop work for application to Ceramics Portfolio Review. Prereq: 320. May be repeated. Maximum 12 hours.

225 Portfolio Practicum - Handbuilding (3) Instructional and introductory studio experience to develop work for application to Ceramics Portfolio Review. Prereq: 320. May be repeated. Maximum 12 hours.

226 Portfolio Practicum - Throwing (3) Introductory post introductory studio experience to develop work for application to Ceramics Portfolio Review. Prereq: 320. May be repeated. Maximum 12 hours.

227 Portfolio Practicum - Ceramic History (3) Survey of the elements and principles of design including layout and the relationship of design to the graphic arts. Prereq: 101. May be repeated. Maximum 12 hours.

228 Portfolio Practicum - Ceramic History (3) Survey of the elements and principles of design including layout and the relationship of design to the graphic arts. Prereq: 101. May be repeated. Maximum 12 hours.


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


232 Ceramics: Throwing (4) Continued investigation of throwing with an emphasis on the development of individual ideas and expression. Prereq: 231. May be repeated. Maximum 12 hours.


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


301 Introduction to Studio Art: Various Media (3) Individual sections for various art student disciplines. For non-majors only. May be repeated, maximum of 12 hours.

302 Multiculturalism in Visual Art (3) Selected cognitively and productively engaging multicultural topics. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

303 Concepts of Jewelry and Metalsmithing (3) Study of design and production of jewelry and metal objects. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

304 Concepts of Photography (3) The relationship of photography to the world of media, and its impact on contemporary society. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

306 Fine Arts History (3) An examination of the evolution of art from the prehistoric to modern times. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

308 Fine Arts History (3) An examination of the evolution of art from the prehistoric to modern times. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

310 Criticism of Graphic Design (3) Analytical and evaluative approach to the study of graphic design. Prereq: 203. May be repeated. Maximum 6 hours.
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 I (3) Major monuments in the history of European and American art from the prehistoric period to the present. Two-hour lecture and one-hour discussion each week.

174 Honors Western Art (3) Consent of Department required. Major monuments in the history of European and American art, emphasizing European art from prehistory through the Middle Ages. Two-hour lecture and one-half hour of writing and discussion. Writing-emphasis course.

175 Honors Western Art II (4) Consent of Department required. Major monuments in the history of European and American art, emphasizing European art from prehistory through the Middle Ages. Study grounded in reading, writing, and discussion. Writing-emphasis course.

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

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

317 Seminar in Art History (3) Various topics emphasis on methodology and skills in writing. Required for Art History majors. Seminar or senior standing and completion of at least 12 hours in art history, consent of instructor may be requested by consent of instructor for a maximum of 6 hours. Writing-emphasis course.

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

110 History of Art in India (2) History of Indian art with concentration on Indian Southeast and South Asia. Writing-emphasis course.

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

123 Japanese Art (3) Survey from very ancient to modern art in Japan focusing on themes and developments in media emphasized. Writing-emphasis course.

321 Early Christianity and Byzantine Art to 1550 (3) Art in the Eastern and Western Empires during the formative centuries of Christianity and the ascendency of the Byzantine Empire. (Same as Medieval Studies 321) and (Same as Religious Studies 321).

412 Northern European Painting, 1500-1600 (2) From close study of Italian Middles Ages to Northern Renaissance. Films by Radio Network and video. Two-hour lecture and one-hour of writing and discussion. Writing-emphasis course. (Same as Medieval Studies 412).

413 Art of the West, 800-1400 (3) Western European art, from Charlemagne to Giotto. Special attention to architecture and written history. (Same as Medieval Studies 413).

414 Northern European Painting, 1500-1600 (2) From close study of Italian Middles Ages to Northern Renaissance. Films by Radio Network and video. Two-hour lecture and one-hour of writing and discussion. Writing-emphasis course. (Same as Medieval Studies 414).

332 Art of Italy, 1475-1579 (2) Concentrated study of Leonardo da Vinci, Michelangelo, Titian, Raphael, Parmigianino, and Giorgione. Writing-emphasis course.

433 Art of Southern Europe: 1575-1700 (3) Concentrated study of Caravaggio, Bernini, and Italian Baroque. Emphasis on analyzing and discussing individual works of art in light of contemporary writings by art historians. Prereq: 172 or 175 (or their equivalents), or consent of instructor. Writing-emphasis course.

472 History of 19th Century Painting and Sculpture in Europe (3) Emphasis on France: Neoclassicism, Romanticism, Realism, Impressionism, Post-Impressionism, Fauvism, German Expressionism, Cubism, Futurism, Constructivism, Dada and Surrealism. Study of major artists and movements with special attention to Van Gogh, Seurat, Matisse, Picasso, Braque, and Surrealism. Writing-emphasis course.

473 History of 20th Century Painting and Sculpture in Europe (3) Emphasis on France: Fauvism, Expressionism, Cubism, Futurism, Constructivism, Dada and Surrealism. Study of major artists and movements with special attention to Van Gogh, Seurat, Matisse, Picasso, Braque, and Surrealism. Writing-emphasis course.

441 Digital Photography II (3) Student or instructor-initiated course offered at convenience of department. Prerequisite: Determined by department for individual topic. May be repeated. Maximum 12 hours.

442 Art of Northern Europe, 1600-1675 (3) Concentrated study of Baroque art in Spain, France, Italy, and Germany. Emphasis on analyzing and discussing individual works of art in light of contemporary writings by art historians. Prereq: 172 or 175 (or their equivalents), or consent of instructor. Writing-emphasis course.

438 History of Medieval Art I (3) Survey from ancient Roman art in Italy and the Eastern Empire from the beginning of Christianity to the 13th century. Emphasis on analyzing and discussing individual works of art in light of contemporary writings by art historians. Prereq: 172 or 175 (or their equivalents), or consent of instructor. Writing-emphasis course.

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

444 History of Photography (3) Addresses the theoretical basis for the modern movement. Emphasis on analyzing and discussing individual works of art in light of contemporary writings by art historians. Prereq: 172 and 175 (or their equivalents), or consent of instructor. Writing-emphasis course.

474 History of 20th Century Painting and Sculpture in Europe (3) Emphasis on France: Neoimpressionism, Cubism, Fauvism, German Expressionism, Cubism, Futurism, Constructivism, Dada and Surrealism. Study of major artists and movements with special attention to Van Gogh, Seurat, Matisse, Picasso, Braque, and Surrealism. Writing-emphasis course.

463 History of Preimpressionism Survey of prints from the Renaissance to the present. Emphasis on 20th century in Europe and the United States. Prereq: 172 and 175 (or their equivalents).

403 History of 20th Century American Art (3) Emphasis on development in all media. Span includes Impressionism and a sculpture with special attention to Van Gogh. Writing-emphasis course.

410 History of 19th Century American Art (3) Emphasis on development in all media. Span includes Impressionism and a sculpture with special attention to Van Gogh. Writing-emphasis course.

419 Japanese Art (3) Survey from ancient Japanese art to contemporary movements in Japan, Taiwan, and Hong Kong. New developments are stressed. Writing-emphasis course.

210 Introduction to Studio Art: Various Media (3) Individual exploration of various artistic disciplines. Foundations and techniques are introduced without the expectation of major studio commitments. Writing-emphasis course.

476 History of 20th Century Painting and Sculpture in Europe (3) Emphasis on painting and sculpture with special attention to Cezanne, Van Gogh, Gauguin, Symbolism, the Barbizon School, Rodin, Pre-Raphaelite Brotherhood, Manet, Courbet, Impressionism. Writing-emphasis course.

475 History of 19th Century Painting and Sculpture in Europe (3) Emphasis on France: Neoclassicism, Romanticism, Realism, Impressionism, Post-Impressionism, Fauvism, German Expressionism, Cubism, Futurism, Constructivism, Dada and Surrealism. Study of major artists and movements with special attention to Van Gogh, Seurat, Matisse, Picasso, Braque, and Surrealism. Writing-emphasis course.

477 History of 19th Century Painting and Sculpture in Europe (3) Emphasis on France: Neoimpressionism, Cubism, Fauvism, German Expressionism, Cubism, Futurism, Constructivism, Dada and Surrealism. Study of major artists and movements with special attention to Van Gogh, Seurat, Matisse, Picasso, Braque, and Surrealism. Writing-emphasis course.

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

ART HISTORY (139)
ART PRINTMAKING (132)

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

260 Intaglio I (3) Metal plate image printing in traditional and contemporary techniques of drypoint, direct print, intaglio, and etching. May be repeated. Maximum 12 hours.

262 Intaglio II (3) Metal plate intaglio printing in traditional and contemporary techniques of drypoint, direct print, intaglio, and etching. May be repeated. Maximum 12 hours.

263 Lithography I (3) Stone and aluminum plate lithography including work from zinc, intaglio, and etching. May be repeated. Maximum 12 hours.

264 Screen Printing I (3) Screen printing as a fine art medium including development and application of visual design, preparation of positive and negative negatives, and printing. May be repeated. Maximum 6 hours. Prereq: 101.

265 Lithography II (3) Stone and aluminum plate lithography applied to traditional and contemporary techniques of drypoint, direct print, intaglio, and etching. Prereq: 263. May be repeated. Maximum 6 hours.

291 Papermaking Workshop (3) Papermaking as a process for the production of two and three-dimensional art. Includes sheet forming, embossing, texturing, embossing, cold surface color, printing, and construction of individual papers. Emphasis on development of a personal form. May be repeated. Maximum 12 hours.

301 Independent Portfolio (3) Preparation of prior work in printmaking. Successful completion of registration required. Prereq: Consent of instructor. Satisfactory/Fail only. Students should be registered as Printmaking majors.

302 Intaglio II (4) Exploration of concepts and techniques in the area of intaglio printing including drypoint, direct print, intaglio, and etching. Prereq: 262 or 263 or consent of instructor. May be repeated. Maximum 6 hours.

303 Lithography II (4) Exploration of concepts and techniques in lithography including lithography from stone, intaglio, and etching. Prereq: 263 or 300 or consent of instructor. May be repeated. Maximum 6 hours.

304 Screen Printing II (4) Advanced work with basic screen printing techniques including photo screening. Emphasis upon image design and personal concept. Prereq: 264 and 300 or consent of instructor. May be repeated. Maximum 6 hours.

314 Screen Printing III (4) Technical development of advanced printing techniques. Emphasis upon development, experiment, and personal concept. Prereq: Consent of instructor. May be repeated. Minimum 12 hours.

409 Special Topics in Printmaking (3) Student and instructor-initiated course offered at convenience of department. Prereq: Screen I and printmaking department. Prereq: May be repeated. Minimum 12 hours.

410 Independent Study (1-10) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

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

417 Visiting Artist Seminar (2) Study and discussion of contemporary concerns and material choices for different artists. Prereq: 409 or consent of instructor. May be repeated. Maximum 8 hours.

462 Intaglio III (3-6) Exploration of individual projects. Prereq: 264 and 360, or consent of instructor. May be repeated. Minimum 12 hours.

463 Lithography III (3-6) Exploration of individual projects. Prereq: 263 and 360, or consent of instructor. May be repeated. Minimum 12 hours.

464 Screen Printing III (3-6) Exploration of individual projects. Prereq: development of image and personal concept. Prereq: Consent of instructor. May be repeated. Minimum 12 hours.

480 Special Topics in Printmaking (4) Student and instructor-initiated course offered at convenience of department. Prereq: Printmaking I and printmaking department. Prereq: May be repeated. Minimum 8 hours.

493 Independent Study (1-15) Prereq: instructor-initiated course offered at convenience of department. Prereq: consent of instructor. May be repeated. Maximum 12 hours.

494 Individual Problems (3-6) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary concerns and material choices for different artists. Prereq: 464 or consent of instructor. May be repeated. Maximum 8 hours.

ART SCULPTURE (143)

191 Introduction to Studio Art: Various Media (2) Individual variables for various art disciplines. For Non-majors only. Courses may be repeated. Minimum may not be repeated. Maximum 12 hours.

241 Sculpture I (3) Problems which explore basic sculptural concepts and materials. Prereq: 240 and 242 or consent of instructor. May be repeated. Minimum 6 hours.

242 Life Sculpture I (2) Modeling techniques may be used, except for figures from life. Possible use of aperture with Horton figures as subject. Modeling process as both observational and metering. Limiting work in pebbles, wood, or metal. Prereq: 241 or consent of instructor.

315 Life Sculpture II (3) Modeling techniques may be used, except for figures from life. Possible use of aperture with Horton figures as subject. Modeling process as both observational and metering. Limiting work in pebbles, wood, or metal. Prereq: 241 or consent of instructor.

415 Watercolor IV (6) Advanced painting with water-based media on paper stressing individual concepts and personal approaches. Prereq: 316. May be repeated. Maximum 6 hours.

501 Watercolor Portfolio Review (0) Review of prior work in watercolor. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of instructor. Satisfactory/Fail only.

132 Elementary Japanese I, II, III (5,5,5) Must be taken in sequence. Prereq: 132 or equivalent or consent of instructor. May be repeated. Minimum 12 hours.

133 Elementary Japanese I, II, III (5,5,5) Must be taken in sequence. Prereq: 133 or equivalent or consent of instructor. May be repeated. Minimum 12 hours.

151-152 Elementary Japanese I, II, III (5,5,5) Must be taken in sequence. Prereq: 151-152 or equivalent or consent of instructor. May be repeated. Minimum 12 hours.

152-153 Elementary Japanese I, II, III (5,5,5) Must be taken in sequence. Prereq: 152-153 or equivalent or consent of instructor. May be repeated. Minimum 12 hours.

161-162 Elementary Japanese I, II, III (5,5,5) Must be taken in sequence. Prereq: 161-162 or equivalent or consent of instructor. May be repeated. Minimum 12 hours.
ASTRONOMY (145)

151-152 Introductory Astronomy (4,4) Prereq: 251-252 or equivalent or consent of instructor. Must be taken in sequence.


413 Readings in Chinese Literature (2) Prereq: Matura- lity of intermediate-level Chinese or consent of instructor. May be repeated. Maximum 6 hours.

414 Readings in Japanese Literature (2) Prereq: Mastery of intermediate-level Japanese or consent of instructor. May be repeated. Maximum 6 hours.

480 Chinese and Japanese Internship (1-15) May be repeated. Maximum 9 hours.

471 Selected Topics in Asian Studies (3) Content may vary. May be repeated. Maximum 9 hours.

333 Islam in the Modern World (3) Prereq: 101-102 or consent of instructor. May be repeated. Maximum 9 hours.

331 Animal Development and Embryology Laboratory (2) Prereq: 330 or consent of instructor. Must be taken in sequence. 2 hours lab. Only one of these sequences (151-152, 161-162, or 217-217) may be taken for credit.

217-218 Honors Introductory Astronomy (4,4) Introduces science and astrophysics, formal methods of cosmology and evolution of the solar system in light of modern astrophysics. Prerequisites: Principles for interpretation of interstellar and intergalactic material. Must be taken in sequence. 2 hours lab. Only one of these sequences may be taken for credit.

111 Advanced Topics in Astronomy (1-4) Prereq: 151-152, 161-162, or 217-217. May be repeated. Maximum 9 hours.

241-242 Intermediate Modern Hebrew I, II (4,4) Taped language program. Prereq: 161-162 or equivalent or consent of instructor. Must be taken in sequence.

243-244 Advanced Modern Standard Arabic I, II (4,4) Taped language program. Prereq: 161-162 or equivalent or consent of instructor. Must be taken in sequence.

270-271 Spoken Lebanese-Palestinian Arabic (4,4) In- troduces a complete world language program. Prereq: 160-160 or equivalent or consent of instructor.

121-122 Elementary Modern Standard Arabic I, II (4,4) Basic standard Arabic for use in daily life. Emphasis on appropriate Arabic for communication, reading and translation. Prereq: 141-142 or equivalent or consent of instructor.

133-134 Advanced Modern Standard Arabic I, II (4,4) Advanced Modern Standard Arabic for use in daily life. Emphasis on appropriate Arabic for communication, reading and translation. Prereq: 141-142 or equivalent or consent of instructor.

130-131 Elementary Modern Standard Arabic I, II (4,4) Introductory world language program. Prereq: 121-122 or equivalent or consent of instructor.

221-222 Intermediate Modern Standard Arabic I, II (4,4) Intermediate world language program. Prereq: 131-132 or equivalent or consent of instructor.

161-162 Elementary Persian (4,4) Taped language program. Prereq: Must be taken in sequence. 3 hours of instruction per week.

261-262 Intermediate Persian (4,4) Taped language program. Prereq: 141-142 or equivalent or consent of instructor.

263-264 Advanced Persian (4,4) Emphasis on appropriate Arabic for communication, reading and translation. Prereq: 141-142 or equivalent or consent of instructor.

160-161-162 Elementary Modern standard Arabic I, II, III (4,4) Language lab and computer program. Must be taken in sequence. 3 hours of instruction per week.

253-254 Advanced Modern Standard Arabic I, II (4,4) Taped language program. Prereq: 160-160 or equivalent or consent of instructor.

251-252 Advanced Modern Standard Arabic I, II (4,4) Advanced Modern Standard Arabic for use in daily life. Emphasis on appropriate Arabic for communication, reading and translation. Prereq: 141-142 or equivalent or consent of instructor.

253-254 Advanced Modern Standard Arabic I, II (4,4) Advanced Modern Standard Arabic for use in daily life. Emphasis on appropriate Arabic for communication, reading and translation. Prereq: 141-142 or equivalent or consent of instructor.

304 Introduction to Communication Disorders (3) Prereq: 251-252 or equivalent or consent of instructor.

305 Audiology I (3) Basic acoustics. Using model organisms, especially Drosophila and mouse, illustrating methods in modern genetics, including techniques for investigating genetic control, development, and evolution. Prereq: 251-252 or equivalent or consent of instructor.

306 Audiology II (3) Advanced audiology. Using model organisms, especially Drosophila and mouse, illustrating methods in modern genetics, including techniques for investigating genetic control, development, and evolution. Prereq: 251-252 or equivalent or consent of instructor.

352 Observational Astronomy (1-4) Prereq: 151-152, 161-162, or 217-217. May be repeated. Maximum 9 hours.

351 Observation of Clinical Practice (1) Prereq: 320, 371, 431, or consent of instructor.
471-481 Biophysical Chemistry (3,3) Physicochemical principles and problems of human inheritance. Prereq: the application of biochemical principles and techniques to the study of protein, nucleic acid, carbohydrate, and lipid structures; cellular, developmental, and molecular processes; membrane structure and function; and interaction of biological systems with their environment. May not be used toward requirements for any major. May be repeated. Maximum 12 hours. Prereq: 410.

462 Junior/Senior Seminar (1) Lecture/discussion on special field problems or computer simulations. A working knowledge of the subject is assumed. May involve an individual project with which they are associated. Grading will be based on participation, oral and written reports, and a final examination. Limited to 12 hours. Prereq: 101-102.

403 Independent Research in Biochemistry (1-6) Special laboratory project for advanced students, not limited to a specific area of research. May be repeated. Prereq: 410. Max 3 credit hours.

492 Off-Campus Study (1-6) No more than two credit hours of 492 will count toward the Biological Sciences: BCMB Education 480.)

BIOLOGY (190) 101-103 Humankind in the Biotic World (4) Introduction to the principles of biology from the perspective of the impacts of plants, animals, and microbes on human life, and the impact of human life on the biosphere. Intended for students not majoring in the biological sciences. 101: surveys life from the cell to human beings. Topics include basic biology, genetics, population biology, ecology, evolution, conservation, and environmental issues. 102: focuses on the diversity of the Earth's life and the interdependence among components. Topics include survey of biodiversity from bacteria to higher plants and animals, genetics and evolution, biogeography, human populations, and global change. Each course is 3 hours lecture and 2 lab sessions. Prerequisites: 101.

202-203 Inside the Biological Sciences (3,3) Presentations by faculty and other biology professionals emphasizing applications of biology. Open to freshmen and sophomores. Prereq: 101.

240 General Genetics (3) Classical and modern principles of heredity. Topics include meiosis and transposition; Mendelian, linkage, and sex linkage genetics; molecular biology; DNA and protein synthesis; development; and cancer. Prereq: Introductory physics (or BE 121-122) and a 300 or 400 level biology course. 202-203 surveys concepts in biology (e.g., biotechnology) and emphasizes application of biology to personal and societal issues. Prereq: 201.

243 Material and Energy Flows in Biological Systems (3) A study of the flow of mass and energy in biologic systems, with emphasis on plant and animal groups. Wright and analysis of lab projects. 3 hours lecture and 3 labs. Prereq: 101-102.


246 General Genetics (4) Classical and modern principles of heredity. Topics include meiosis and transposition; Mendelian, linkage, and sex linkage genetics; molecular biology; DNA and protein synthesis; development; and cancer. Prereq: Introductory physics (or BE 121-122) and a 300 or 400 level biology course. 202-203 surveys concepts in biology (e.g., biotechnology) and emphasizes application of biology to personal and societal issues. Prereq: 201.

247 Vertebrate Embryology and Development (4) Principles of development and evolutionary development as they apply to vertebrates. Prereq: 201.

248 General Genetics (4) Classical and modern principles of heredity. Topics include meiosis and transposition; Mendelian, linkage, and sex linkage genetics; molecular biology; DNA and protein synthesis; development; and cancer. Prereq: Introductory physics (or BE 121-122) and a 300 or 400 level biology course. 202-203 surveys concepts in biology (e.g., biotechnology) and emphasizes application of biology to personal and societal issues. Prereq: 201.


304-308 Honors Colloquium in Biophysical Research (1-3) thrilled by the principles of biology from the perspective of the impacts of plants, animals, and microbes on human life, and the impact of human life on the biosphere. Intended for students not majoring in the biological sciences. 101: surveys life from the cell to human beings. Topics include basic biology, genetics, population biology, ecology, evolution, conservation, and environmental issues. 102: focuses on the diversity of the Earth's life and the interdependence among components. Topics include survey of biodiversity from bacteria to higher plants and animals, genetics and evolution, biogeography, human populations, and global change. Each course is 3 hours lecture and 2 lab sessions. Prerequisites: 101.

BIOLOGY (190) 101-103 Humankind in the Biotic World (4) Introduction to the principles of biology from the perspective of the impacts of plants, animals, and microbes on human life, and the impact of human life on the biosphere. Intended for students not majoring in the biological sciences. 101: surveys life from the cell to human beings. Topics include basic biology, genetics, population biology, ecology, evolution, conservation, and environmental issues. 102: focuses on the diversity of the Earth's life and the interdependence among components. Topics include survey of biodiversity from bacteria to higher plants and animals, genetics and evolution, biogeography, human populations, and global change. Each course is 3 hours lecture and 2 lab sessions. Prerequisites: 101.

202-203 Inside the Biological Sciences (3,3) Presentations by faculty and other biology professionals emphasizing applications of biology. Open to freshmen and sophomores. Prereq: 101.

240 General Genetics (3) Classical and modern principles of heredity. Topics include meiosis and transposition; Mendelian, linkage, and sex linkage genetics; molecular biology; DNA and protein synthesis; development; and cancer. Prereq: Introductory physics (or BE 121-122) and a 300 or 400 level biology course. 202-203 surveys concepts in biology (e.g., biotechnology) and emphasizes application of biology to personal and societal issues. Prereq: 201.

243 Material and Energy Flows in Biological Systems (3) A study of the flow of mass and energy in biologic systems, with emphasis on plant and animal groups. Wright and analysis of lab projects. 3 hours lecture and 3 labs. Prereq: 101-102.


246 General Genetics (4) Classical and modern principles of heredity. Topics include meiosis and transposition; Mendelian, linkage, and sex linkage genetics; molecular biology; DNA and protein synthesis; development; and cancer. Prereq: Introductory physics (or BE 121-122) and a 300 or 400 level biology course. 202-203 surveys concepts in biology (e.g., biotechnology) and emphasizes application of biology to personal and societal issues. Prereq: 201.

247 Vertebrate Embryology and Development (4) Principles of development and evolutionary development as they apply to vertebrates. Prereq: 201.

248 General Genetics (4) Classical and modern principles of heredity. Topics include meiosis and transposition; Mendelian, linkage, and sex linkage genetics; molecular biology; DNA and protein synthesis; development; and cancer. Prereq: Introductory physics (or BE 121-122) and a 300 or 400 level biology course. 202-203 surveys concepts in biology (e.g., biotechnology) and emphasizes application of biology to personal and societal issues. Prereq: 201.


304-308 Honors Colloquium in Biophysical Research (1-3) thrilled by the principles of biology from the perspective of the impacts of plants, animals, and microbes on human life, and the impact of human life on the biosphere. Intended for students not majoring in the biological sciences. 101: surveys life from the cell to human beings. Topics include basic biology, genetics, population biology, ecology, evolution, conservation, and environmental issues. 102: focuses on the diversity of the Earth's life and the interdependence among components. Topics include survey of biodiversity from bacteria to higher plants and animals, genetics and evolution, biogeography, human populations, and global change. Each course is 3 hours lecture and 2 lab sessions. Prerequisites: 101.

304-308 Honors Colloquium in Biophysical Research (1-3) thrilled by the principles of biology from the perspective of the impacts of plants, animals, and microbes on human life, and the impact of human life on the biosphere. Intended for students not majoring in the biological sciences. 101: surveys life from the cell to human beings. Topics include basic biology, genetics, population biology, ecology, evolution, conservation, and environmental issues. 102: focuses on the diversity of the Earth's life and the interdependence among components. Topics include survey of biodiversity from bacteria to higher plants and animals, genetics and evolution, biogeography, human populations, and global change. Each course is 3 hours lecture and 2 lab sessions. Prerequisites: 101.

304-308 Honors Colloquium in Biophysical Research (1-3) thrilled by the principles of biology from the perspective of the impacts of plants, animals, and microbes on human life, and the impact of human life on the biosphere. Intended for students not majoring in the biological sciences. 101: surveys life from the cell to human beings. Topics include basic biology, genetics, population biology, ecology, evolution, conservation, and environmental issues. 102: focuses on the diversity of the Earth's life and the interdependence among components. Topics include survey of biodiversity from bacteria to higher plants and animals, genetics and evolution, biogeography, human populations, and global change. Each course is 3 hours lecture and 2 lab sessions. Prerequisites: 101.
420 Small Internal Combustion Engines (3) Theory, components and mechanics of small internal combustion engines: theoretical cycles, selection, operation, safeguards, and repair of single-cylinder engines. Prerequisite: Physics 123 or consent of instructor. 3 hours and 1 lab.

451 Electronic Systems (4) Basic electronics with biological applications. Analogue and digital electronics, sensing and controlling physical and environmental parameters, sensor selection and measurement, signal conditioning, process control, microprocessor-based control systems, enjoyments and design projects. Design content: 1 hour. Prerequisite: Electrical Engineering 301 or consent of instructor. 4 hours and 1 lab.

433 Bioprocess System Design and Analysis (3) Design of storage and transportation systems for biological materials. Mass and energy balances, transport and product and waste characteristics, equipment specifications, economic analyses, control system considerations. Design content: 2 hours. Prerequisites: Chem 311 or 312. 3 hours and 2 labs.

432 Agricultural Waste Management and Pollution Control (3) Management and utilization of livestock waste. Prerequisites: Mathematics 125 or equivalent. 2 hours and a lab. 8.6.53

461 Spacial Problems in Biosystems Engineering (1) Presentation and report of problems. May be repeated. E

459 Selected Topics in Biosystems Engineering (1-3) Current research topics in evolutionary ecology and genetics. Prerequisites: 110-120 or Biology 130-140. (Same as EEB 459). 1-3 hours.

459 Plant Evolution (3) Emphasizing of evolutionary topics that are of special interest to plant biologists. May be repeated, but no specific topic can be repeated. Maximum 4 hours.

412 Undergraduate Seminar (1) At least one hour is required for a Biological major or minor. Junior or senior status recommended. May be repeated. Maximum 2 hours.

406 Radio-TV Performance (3) Development of vocal, visual and performance skills for announcers, interviewers, narrators, reporters, and newscasters. Laboratory hours required. Prerequisite: Broadcasting 275. 3 hours.

405 Electronic News Gathering (3) Writing, reporting, and producing news for television. Lecture and lab course providing students with experience as reporters, narrators, reporters, and newscasters. Lab experience. Prerequisite: Broadcasting 275. 3 hours.

404 Plant Molecular Biology (4) Introduction to current research in plant molecular biology and its applications. Prerequisites: General biology, genetics, and microbiology. Topics include the uses of plasmid and viral vectors, gene expression and regulation, transfections, transgenic plants, cell lineages, and shoots, and plant virus and disease control. May be repeated. Prerequisite: 451. 4 hours and 1 lab.

"Courses of Instruction" 163

400 Research in Chemistry (By) Open only to majors with permission of department head. Prereq: 360. Offered only if required. Advanced students work with faculty on projects requiring knowledge and skills acquired in previous laboratory courses. May be repeated. Maximum 6 hours. E.

401 Advanced Physical Chemistry Laboratory (3) Supervised by industry/laboratory technical staff as an augmented facility and by a chemistry faculty member serving as liaison between the laboratory and the university. Consists of a full-time "hands-on" individual assignment for one semester as a member of a theoretical or experimental team. Final comprehensive written report required. May not be repeated. Prereq: 390 or higher-numbered course in chemistry and consent of instructor. May be repeated. Maximum 6 hours. E.

405 Topics in the Development of Chemistry (3) Historical development of topics such as the atomic theory, chemistry, chemical industry, the history of radioactivity, and evolution. Prereq: Permission of instructor. Recommended for senior standing in chemistry. May be repeated. Major writing requirement. Prereq: 390 or higher-numbered course in chemistry and consent of instructor. May be repeated. Maximum 6 hours. E.

369-489 Physical Chemistry Laboratory (2,2) Experiments on topics discussed in 370-380. Comb: 370. One 5-hour lab. E.
development of architecture, literature, and visual paint-
ing, includes donor arts and the relationship between
archaeology and art. Writing emphasis course.

239 Archaeology and Art of Rome and (3) Survey of the archaeology of the Italian peninsula and the
Roman Empire (100 B.C.-A.D. 300). Prerequisites: I;
Principles of Art History, I and II; or consent of
instructor. Writing emphasis course.

325-356 Greek and Roman Literature in English Transliteration (325-356: Greco-Latin literature. Major
themes of ancient Greek and Roman literature. Emphasis
on the study of the Greek and Roman world and its
impact on the modem world. Writing emphasis course.

273 Medieval and Scientific Transliterations (2) Greek
and Latin roots from which medical and scientific terms
are derived. Emphasis on Latin morphology. Writing emphasis course.

351 Architecture of the Ancient Greek Age and Early
Greeks (2) Architecture, philosophy, and the
architecture of the ancient Greeks from the Neolithic to
the Periclean period. Prerequisites: I; Advanced
Greek. Writing emphasis course.

402 Greek Prose (3) History, philosophy, and oratory.
Authors vary. Maximum 9 hours. Prerequisite: 261.

401 Greek Poetry (3) Epic, lyric, drama. Authors vary.
May be repeated for credit. Maximum 9 hours.
(Same as Women's Studies 383.)

381 Greek Civilization (3) Major aspects of ancient
Greece. Cities, including their architecture, planning,
architecture and artifacts as well as descriptions of ancient
historical events. The role of women in the apparently
male-dominated society. The prominence of Athens; the
Greek civilization: religion, fine arts, political life, and
men's status. Prerequisites: II; or consent of
department. Writing emphasis course.

381-382 Greek and Latin Literature in English
Transliteration (381-382: Literature of the ancient Greeks
and Romans. Major themes of ancient Greek and Roman
literature. Emphasis on Latin morphology. Writing emphasis
course.

246 Cities and Settlements of the Greek and Roman
World (2) Major cities and sanctuaries in Greece, the
Greek Colonies, and the Roman Empire. Includes
an architectural history of principal sites, landscapes,
architecture and art as well as descriptions of ancient
Greek cities. Includes various types of plans - urban,
planning and development, government, and
architecture. The land and sea as well as the characteristics
of ancient civilizations. May be repeated for credit. Maximum
9 hours. Prerequisite: I; Advanced
Greek. Writing emphasis course.

233 Archaeology and Art of Etruria and Rome (3) Survey of the archaeology of the Italian peninsula and
the Roman Republic. Emphasis on political, economic,
and cultural developments. Writing emphasis course.

202-203 Cross-Cultural Perspectives in World
Literature (3, 3) Literary perspectives and values in
different time periods and cultures. Variable content.

201 Introduction to Comparative Literature (2) Basic
knowledge, techniques, and awareness necessary to
read, read, and write in world literature. Writing emphasis
course.

200 Introduction to Journalism (3) Principles of
journalism and practices of the mass media in America.
Prerequisite: Journalism 200, or Advertising 350, or Broadcasting 320
or 350, or Speech Communication 390, or consent of
instructor. Writing emphasis course.

302 Fundamental Algorithms (3) Design, analysis,
and implementation of fundamental algorithms, as well as
and their data structures. Prerequisite: CS 111
and CS 112. 3-hour lab required.

314 Discrete Structures (3) Equivalence, relations,
partial ordering. Combinations, permutations, analysis of
complexity, finite automata and regular languages.
Prerequisite: CS 111, CS 112, and Math 300.

316 Computer Organization (4) Number systems,
characteristics of modern digital computers with
emphasis on faculty research. Does not satisfy any requirements for Computer
Science major or minor, or a job-lab required.

315 Introduction to Computer Science (3) Problem-
-solving and algorithm development. Organization and
characteristics of modern digital computers with emphasis
on developing good programming habits, building
abstractions with procedures and data, and program-
ning in a modern computer language. Students, who
have received credit for 111 or 112 may not also receive
credit for 102 except by consent of the instructor.

400 Advanced Topics in Machine Intelligence (3) Top-
ics such as expert systems, image processing, and
automatic speech recognition. Emphasis on faculty
research. May be repeated for credit. Maximum
9 hours. Prerequisite: Computer Organization or
computer science course.

401 Introduction to Data Structures (3) Top-
ics such as sorting, searching, tree structures,
and algorithm analysis. Emphasis on faculty
research. May be repeated for credit. Maximum
9 hours. Prerequisite: Computer Organization or
computer science course.

402 Advanced Topics in Software Engineering (3)
Top-
ics such as requirements analysis, software design,
and database management. Emphasis on faculty
research. May be repeated for credit. Maximum
9 hours. Prerequisite: Computer Organization or
computer science course.
576 Student Development (1-3) Study of theories in acquisition and knowledge in areas such as interpersonal relationships, communication, and self-awareness. May be repeated. Maximum 12 hours. E
580 Sea Rest Development: Implications for Education and Counseling (3) Theories and research concerning the development of a person's role in education and counseling. May be repeated. Maximum 15 hours. E
581 Personality and Mental Health (3) Perspectives of mental health with applications to education and other vocations. May be repeated. Maximum 15 credit hours. E
583 Independent Study (1-18) Investigative study of current educational research in selected areas. May be repeated. Maximum 45 hours. E
590 Cultural Studies in Education (271) 230 Human Physiology (5) May not be applied toward the major. May be repeated. Minimum 12 hours. Prereq: Biological Sciences 110-120 or equivalent. S/NC only. Prereq: Biol- ogy major or permission of the instructor.
410 Ballet: Level III (2) Instruction and practice in advanced classical ballet techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 12 hours. Prereq: 310 and/or 220 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
380 Modern Ballet: Level III (2) Instruction and practice in intermediate modern ballet techniques. Available to majors and minors or with consent of instructor. May be repeated. Minimum 12 hours. Prereq: 280 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
280 Modern (2) Instruction and practice in intermediate modern dance techniques. Available to majors and minors or with consent of instructor. May be repeated. Minimum 12 hours. Prereq: 280 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
270 Practice: Dance Performance (1-2) Preparation and presentation of dance works. May be repeated. Minimum 4 hours. Prereq: Consent of instructor.
260 Ballet: Level I (2) Instruction and practice in elementary ballet techniques. Maximum 4 hours. Prereq: 240 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
250 Practice: Dance Performance (1-2) Preparation and presentation of dance works. May be repeated. Minimum 4 hours. Prereq: Consent of instructor.
240 Jazz: Level III (2) Instruction and practice in advanced jazz and musical theater dance styles and techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 16 hours. Prereq: 220 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
230 Modern (2) Instruction and practice in intermediate modern dance techniques. Available to majors and minors or with consent of instructor. May be repeated. Minimum 12 hours. Prereq: 280 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
220 Jazz: Level I (2) Instruction and practice in intermediate modern dance techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 4 hours. Prereq: 240 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
210 Ballet: Level I (2) Instruction and practice in elementary ballet techniques. Available to majors and minors or with consent of instructor. May be repeated. Minimum 4 hours. Prereq: 240 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
201 Practicum: Dance Performance (1-2) Preparation and presentation of dance works. May be repeated. Minimum 4 hours. Prereq: Consent of instructor.
200 Human Performance in Dance (3-4) Selected topics in dance. May be repeated. Minimum 4 hours. Prereq: Biology major or permission of the instructor.
199 Internship (1-12) Internship in an off-campus dance studio. May be repeated. Maximum 12 credit hours. E
192 Modern (2) Instruction and practice in intermediate modern dance techniques. Available to majors and minors or with consent of instructor. May be repeated. Minimum 4 hours. Prereq: 280 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
190 Jazz: Level II (2) Instruction and practice in advanced jazz and musical theater dance styles and techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 12 hours. Prereq: 220 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
180 Introduction to Dance (1-3) Survey of dance history, dance forms, and dance terminology. May be repeated. Minimum 12 hours. Prereq: Biology major or permission of the instructor.
170 Dance: Level II (2) Instruction and practice in elementary ballet techniques. Available to majors and minors or with consent of instructor. May be repeated. Minimum 4 hours. Prereq: 240 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
160 Ballet: Level I (2) Instruction and practice in elementary ballet techniques. Maximum 4 hours. Prereq: 240 or equivalent. S/NC only. Prereq: Biology major or permission of the instructor.
150 Composition 111 (3) Application of choreographic and production skills culminating in the presentation of two works. Prereq: 440 or 444 or approval of instructor.
145 Dance History Through the 18th Century (3) Survey of dance in various cultures and social contexts from prehistoric through the 18th century. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.
140 Dance in the 20th Century (3) Survey of history and philosophy of dance in the 20th century. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.
135 Directed Independent Study (8-16) Independent study in an area of academic interest. May be repeated. Maximum 16 hours. Prereq: Consent of instructor.
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118 Directed Independent Study (8-16) Independent study in an area of academic interest. May be repeated. Maximum 16 hours. Prereq: Consent of instructor.
117 Directed Independent Study (8-16) Independent study in an area of academic interest. May be repeated. Maximum 16 hours. Prereq: Consent of instructor.
403 Plant Evolution (2) (Same as Botany 403.)

407 Honors Thesis II (2) Honors course for students of exceptional ability. Students accepted on the basis of their records.

1110-1111 Minicourse in Ecology and Evolution Biology (2) Selected advanced topics in ecology, evolution, and systematics. Not open to students who have taken equivalent courses elsewhere. May be repeated for credit.

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ENGINEERING AEROSPACE (016)

316 Dynamic/Vibrations (3) Central force motion, string vibrations, waves, and slim vibrations of single and multiple degree-of-freedom vibrating systems. Prereq: ES 311.H.


211 Engineering Design Workshop (3) Introduction to the design process. Project experience involving working in teams, oral presentations, and written reports. Two 2-hour periods per week. Prereq: 101, 131, F, Sp.

397 Engineering Career Planning and Placement (1) Intensives, techniques for finding personal investors, preparing resumes, networking, business etiquette, and the entire job-seeking process. Intensives for law-related careers. Satisfaction/No credit.

ENGINEERING CHEMICAL (226)


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


312 Chemical Engineering Thermodynamics/Basic concepts and chemical engineering applications of thermodynamics. Focus on applications of equilibrium properties of gases, liquids, and solutions from macroscopic- and microscopic-level perspectives. F, Sp.

335 Introduction to the Calculus of a Single Variable (3) Two 2-hour periods per week. Prereq: 101, 131. F/S.

403 Introduction to Optimization (3) Principles and techniques of optimization. Prereq: Math 142. Satisfactory/No credit.

424 Astronautics (3) Propulsion, trajectories, guidance and control of aerospace vehicles. Prereq: ES 341. F.

426 Introduction to Aerospace Design (2) Design of an aerospace system; system design and analysis; design constraints; selection of materials. Prereq: 422 or ME 344 or consent of instructor. Sp.

428 Control Design of Dynamic Systems (3) Linear systems, state space models, feedback control. Prereq: ES 341. F.

451 Mechanical Engineering/Aerospace Engineering Seminar (1) Topics related to aerospace engineering and related fields. Coreq: ES 341.G.

476 Instructional Media in Elementary Education (1) Introduction to computer applications, including software packages for word processing, spreadsheets, and graphics. Prereq: Math 123, Basic Eng. 101.

495 Selected Topics in Aerospace Science (1-4) Special conferences, workshops, or in-service programs. May be repeated. Maximum 12 hours. E.

501 Chemical Engineering Laboratory (3) Laboratory work in chemical engineering. Prereq: Math 123, Basic Eng. 101.
210 Engineering Measurements (4) Measurement of errors and their analysis, concepts of horizontal, vertical, and angular measurements and control; construction surveys, route surveys through vegetative and horizontal control, and intersection of civil and electrical surveying. Prereq: Engineering Fundamentals 162.

211 Special Topics (1) Introduction to geotechnics applied in highway and rail projects, including the design of foundations, analysis of soil and rock mechanics, and construction equipment. Prereq: Senior standing or consent of instructor.

240 Civil Engineering Systems Design and Management (3) Methods of analyzing and managing projects subject to multiple objectives, including the design of systems to enhance resource allocation for environmental protection in transportation, water resources, social analysis of project impacts, and critical path analysis. Prereq: Senior standing or consent of instructor.

426 Separation Process Technology (3) Microorgan- ism distillation, theory and computer simulation; hydrometallurgy, specialized techniques; leaching processes; mineral processing; hydrometallurgical processes; contactors. Prereq: 260, 360.

495 Hydrology (3) Concepts of hydrologic cycle; weather patterns; precipitation measurement and distribution, groundwater flow, structure of the earth, river hydraulics; population of water bodies; channels and drainage systems; river dynamics. Prereq: 360.

500 Senior Design Project (3) Open-ended, comprehensive, project-oriented design and implementation project. Prereq: 471, 490, 495.


505 Special Topics (1-3) Research developments and current interests in civil and environmental engineering and related fields. Prereq: Consent of instructor. May be repeated: Maximum 6 hours.

510 Portland Cement and Concrete Structures (3) Aggregates and properties of concrete; mix proportions; design of concrete; reinforced concrete, design methods for concrete and asphalt, civil engineering, structural analysis; stress analysis. Prereq: 251, 352. 2 lectures and 1 lab. Prereq: 352.

511 Intermediate Analysis (1) Real numbers, limits and continuity, differentiable functions, the Riemann integral, fundamental theorem of calculus. Letter grade only. Prereq: 351.

513 Engineering Probability and Statistics (3) Introduction to engineering analysis of data and probability distributions. Prereq: 210, 252, 352, 360.

514 Engineering Mechanics 3 (3) Dynamics of particles; Newton’s laws; forces; work and energy; energy methods; momentum; analysis of rigid bodies. Prereq: 260. 4 lectures and 1 lab. Prereq: 251.
391 Frequency-Quasi-Analysis of Signals and Noise (3) Linear and non-linear randomness. Fourier series and Fourier transforms, power spectral density and autocorrelation, white noise and colored noise. Includes Level 1 design projects. Prereq: Math 241, 242. (Same as Physics 391)


393 Communication Systems (3) Communication systems, error propagation, decision rules, and the Viterbi algorithm. Includes Level 1 design projects. Prereq: Math 241, 242. (Same as Electrical Engineering 393)

400 Senior Design (5) A major design project that focuses the student's attention on professional practice, teaming, credibility and communication. Includes Level 1 design projects which require laboratory work. Prereq: Senior standing. (Same as Electrical Engineering 400)
304 Introduction to Human Factors Engineering (3)
- Theory and application of human factors engineering principles
- Human output and behavior, and measurement systems
- Analysis of human capabilities and limitations, including single- and multiple-factor designs
- Design of human-machine interfaces
- Human factors problems in industrial engineering

421 Information Systems Analysis and Design (3)
- Study of IS analysis and design methods and tools
- Systems development processes
- Analysis and design of transaction processing systems
- Development of IS strategic plans

440 Process Improvement Through Planned Experimentation (3)
- Review of fundamentals of continuous improvement
- Experimentation design techniques
- Analysis of experimental data
- Evaluation of improvements

494-495 Special Topics in Industrial Engineering (3, 4)
- Discussion of specific industrial engineering topics
- Research projects

ENGINEERING MATERIALS SCIENCE (638)
201 Introduction to Materials Science and Engineering (3)
- Overview of materials science
- Materials classification

330 Manufacturing Materials/Processes (3)
- Characteristics of materials and processes used in modern manufacturing and processing
- Analysis of material property data, utilization of material databases
- Materials selection in design

340 Principles of Polymeric Materials (3)
- Synthesis of polymers
- Physical properties of polymers
- Structure-property relationships

360 Principles of Ceramic Materials (3)
- Characterization of ceramic materials
- Ceramic fabrication processes from the initial green body to the final product

389-390 Principles of Electronic Materials (2, 3)
- Electronic properties of materials
- Applications in electronic devices

402 Mechanical Behavior of Materials I (3)
- Tensile testing
- Yielding and plastic deformation
- Hardness testing

422 Senior Industrial Engineering Problems Analysis (3)
- Application of Industrial Engineering to field problems
- Involves utilization of relevant software tools

430 Quantitative Methods in Project Management (2)
- Project planning and control systems
- Network and scheduling techniques

484 Introduction to Maintenance and Reliability Engineering (3)
- Review of fundamentals of maintenance and reliability engineering

494-495 Special Topics in Industrial Engineering (3, 4)
- Discussion of specific industrial engineering topics
- Research projects

ENGINEERING MATERIALS (556)
201 Introduction to Industrial Engineering (1)
- Overview of industrial engineering

202 Production Systems Analysis and Design (3)
- Design and analysis of production systems

254 Manufacturing Systems Simulation (3)
- Simulation of manufacturing systems

302 Mechanical Behavior of Materials I (3)
- Tensile testing
- Yielding and plastic deformation
- Hardness testing

304 Introduction to Human Factors Engineering (3)
- Theory and application of human factors engineering principles

306 Simulation (3)
- Simulation of complex production processes using current simulation software

405 Engineering Economic Analysis (3)
- Introduction to economic analysis, including time-value of money

412 Quantitative Methods in Project Management (2)
- Project planning and control systems

414 Industrial Engineering Applications (3)
- To enhance understanding of industrial engineering principles

440 Process Improvement Through Planned Experimentation (3)
- Review of fundamentals of continuous improvement

484 Introduction to Maintenance and Reliability Engineering (3)
- Review of fundamentals of maintenance and reliability engineering

494-495 Special Topics in Industrial Engineering (3, 4)
- Discussion of specific industrial engineering topics
- Research projects

590 Materials Science Seminar (1)
- Discussion of current topics in materials science

710 Theory and Processing of Electronic Materials (3)
- Fundamentals of electronic materials

790 Materials Science Seminar (1)
- Discussion of current topics in materials science

890 Materials Science Seminar (1)
- Discussion of current topics in materials science

895 Materials Science Seminar (1)
- Discussion of current topics in materials science


440 Polymers Fabrication and Design (3) Lectures, laboratory, and design component; characterization of plastics fabrication, polymer classification, and selection of appropriate types of plastics for design and commercial production. Prereq: characterization laboratory. Sp.

446 Plastics Fabrication and Design (3) Lectures, laboratory, design component; characterization of plastics fabrication, polymer classification, and selection of appropriate types of plastics for design and commercial production. Prereq: characterization laboratory. Sp.

469 Environmental Degradation of Materials (3) Measurement and monitoring of environmental effects, material degradation mechanisms, ceramometalics and composite properties, and environmental engineering. Prereq: 303, 304. F.

471 Materials Economics (3) Elements of microeconomics, competition, and market structures. Prereq: 304. F.

480 Chemical Composites (3) Characteristic of composites, macromolecular and composite design, overview of characterization techniques; modulus, strain, strength, interfacial adhesion, chemical and physical properties evaluation, normal and special applications, Prereq: 303 and 321 (same as Materials Science 429). F, Sp.


484 Introduction to Ceramic Matrix Composites (3) Properties of glasses and ceramics and composite structures, composites and composites selection and design. Prereq: 301 and 303. F.

485 Biomaterials (3) Metals, polymers and ceramics, their characteristics, biocompatibility and clinical evaluation, material design, metallurgical and chemical processing, ceramic processing. Prereq: 320 or equivalent. (Same as: Engineering Science 402). F.

498 Elements of Machine Design 1 (3) Motion and power transmission, friction, lubrication, and wear. Prereq: 361 and 381. F.


469 Environmental Degradation of Materials (3) Measurement and monitoring of environmental effects, material degradation mechanisms, ceramometalics and composite properties, and environmental engineering. Prereq: 303, 304. F.

471 Materials Economics (3) Elements of microeconomics, competition, and market structures. Prereq: 304. F.

480 Chemical Composites (3) Characteristic of composites, macromolecular and composite design, overview of characterization techniques; modulus, strain, strength, interfacial adhesion, chemical and physical properties evaluation, normal and special applications, Prereq: 303 and 321 (same as Materials Science 429). F, Sp.


484 Introduction to Ceramic Matrix Composites (3) Properties of glasses and ceramics and composite structures, composites and composites selection and design. Prereq: 301 and 303. F.

485 Biomaterials (3) Metals, polymers and ceramics, their characteristics, biocompatibility and clinical evaluation, material design, metallurgical and chemical processing, ceramic processing. Prereq: 320 or equivalent. (Same as: Engineering Science 402). F.

498 Elements of Machine Design 1 (3) Motion and power transmission, friction, lubrication, and wear. Prereq: 361 and 381. F.


469 Environmental Degradation of Materials (3) Measurement and monitoring of environmental effects, material degradation mechanisms, ceramometalics and composite properties, and environmental engineering. Prereq: 303, 304. F.

471 Materials Economics (3) Elements of microeconomics, competition, and market structures. Prereq: 304. F.

480 Chemical Composites (3) Characteristic of composites, macromolecular and composite design, overview of characterization techniques; modulus, strain, strength, interfacial adhesion, chemical and physical properties evaluation, normal and special applications, Prereq: 303 and 321 (same as Materials Science 429). F, Sp.
483 Special Topics in Literature (3) topics vary. May be repeated. Maximum 6 hours. 
481 Studies in Folklore (3) Topics vary. May be repeated. Maximum 6 hours. 
479 Literary Criticism (3) Historical survey of major foreign language instruction. (Same as Linguistics 476.) 
475 Teaching English as a Second or Foreign Language (3) Teaching practice in ESL classes and development of innovative approaches to ESUEFL; basic features of ESUEFL; introduction to second language acquisition; the effect of age; cognitive and sociocultural factors; and implications for second/foreign language instruction. (Same as Linguistics 474.) 
474 Teaching English as a Second or Foreign Language (3) Pre-requisite: second year of a foreign language or consent of instructor. (Same as Linguistics 472.) 
472 American English (3) Phonological, morphological, and syntactic characteristics of major社会 and regional dialects. Canadian English. May be repeated once with permission of instructor. 
490 Language and Law (3) Language in the Anglo-American legal process; focus on differences between British and American literature. May be repeated with consent of department. Maximum 6 hours. 
498 Senior Honors Paper (3) Second semester of senior honors project. The project may be an intensive study of a single author, period, genre, or of problems in language, literary history, and theory; or an interdisciplinary research project toward a Ph.D. dissertation. 
499 Independent Study (1-6) Topical subjects in subfields not covered regularly in our curriculum. May be repeated for a total of 6 hours credit. 
456 Contemporary/Postmodern Literature (3) Special topics in the theoretical and practical approaches to the study of contemporary and modern literature. May be repeated with permission of instructor. 
455 Persuasive Writing (3) Focuses on writing and analyzing persuasive texts in public, private, and academic contexts. Prereq: 355 or consent of instructor. 
454 Twentieth-Century International Novel (3) Fiction in English translation from such writers as Khalil Gibran and Camus through contemporary authors. 
452 British and American Ballad and Folktale (3) Pre-requisite: an introductory course in English, Scottish, and North American traditions. 
310 Writing, Layout, and Production of Technical Documents (3) Principles of design for desktop publishing. Production of various documents to be incorporated into a professional portfolio. Prereq: 360 or consent of instructor. 
306 Forest Protection (3) Biological, economic and legal considerations of fire, pathogens, insects, vertebrates, plants, and water in the forest ecosystem. One 2-hour lab per week. 
305 Disease and Injury: Epidemiology and Demographic Perspectives (3) Disease and injury mortality and morbidity patterns, trends, differences and causes are examined from perspectives of population-based epidemiology and demography. Completion of college course in statistics or mathematics is recommended. 
392 Physical Education Activities (2) Participation in classes outside of regular conditioning programs and practices; recognition and immediate treatment of injuries; 350 and progression to the Exercise Science major or consent of instructor. 
390 Exercise Science (1-3) In selected sport/athletic or professional areas of Physical Education. May be repeated. Maximum of 6 hours. Prereq: Progression to the major. 
391 Adapted Physical Activity (1) Working with individuals with disabilities and other disabilities, with special emphasis on leading fitness activities, including jogging, exercise to music, wheelchairs, scooters, and fitness games. 1 hour lecture; 3 hour lab. Prereq: 390. 
392 Exercise Science Practicum 11 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Maximum of 6 hours. Prereq: Progression to the major. 
393 Exercise Science Practicum 12 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Maximum of 6 hours. Prereq: Progression to the major. 
394 Exercise Science Practicum 13 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Maximum of 6 hours. Prereq: Progression to the major. 
395 Exercise Science Practicum 14 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Maximum of 6 hours. Prereq: Progression to the major. 
396 Exercise Science Practicum 15 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Maximum of 6 hours. Prereq: Progression to the major. 
397 Exercise Science Practicum 16 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Maximum of 6 hours. Prereq: Progression to the major. 
398 Exercise Science Practicum 17 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Minimum of 6 hours. Prereq: Progression to the major. 
399 Exercise Science Practicum 18 (1-6) Supervised experience in exercise/fitness areas. May be repeated. Minimum of 6 hours. Prereq: Progression to the major.
Courses of Instruction

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


402 Special Topics in Finance (3) Junior and senior level seminar on topics to be announced prior to registration. Coreq: Accounting 202.

410 Investment Analysis (3) Principles and concepts of asset valuation in competitive and efficient financial markets. Basic analytical tools are developed and used to study valuation of different types of securities. Morning written examination. Prereg: 301.

415 Portfolio Analysis and Management (3) Portfolio theory and practice, including risk/reward analysis with a view to determining rational investment policy. Examination of the tradeoff between capital gains and income, diversification, and economic environment. Role of the institutional investor. Lecture and laboratory. Prereg: 301.

442 Introduction to Real Estate (3) The course is designed to provide a detailed survey of the real estate market and its analysis. Contemporary focus on the urban environment and its role in the development of national, state, and institutional, and economic environment of the real estate market. In addition, the factors influencing real estate development and investment strategies will be considered. This course may not be used to satisfy Finance elective requirements. (Same as Urban Studies 280.)


431 Financial Institutions (3) Management policies of financial institutions including asset, liability and capital management. Emphasis on capital structure, equity and debt ratios, and financial statement ratio analysis. Prereg: 301.

422 Portfolio Analysis and Management (3) Portfolio theory and practice, including risk/reward analysis with a view to determining rational investment policy. Examination of the tradeoff between capital gains and income, diversification, and economic environment. Role of the institutional investor. Lecture and laboratory. Prereg: 301.


426 Advanced Topics in Financial Management (3) Current federal tax law applicable to real property. Limited partnerships and other joint ventures. (Same as Urban Studies 481.)

432 Financial Institutions (3) Management policies of financial institutions including asset, liability and capital management. Emphasis on capital structure, equity and debt ratios, and financial statement ratio analysis. Prereg: 301.


FORESTRY, WILDLIFE AND FISHERIES (398)

108 Current issues in Renewable Natural Resources (1) Current resource issues presented by invited guest speaker each week; student discussion and interaction with speaker, some written work (reports), topics and speakers changing each offering; attendance required of all meetings. Field trips may be required. Prereq: Forestry 305. Satisfactory/No credit only. Credit.


311 Dendrology and Silvics of North American Trees (3) Identification and classification of trees and important North American woods and woody; related associations; characteristic features of trees and their uses. Prereq: 10 years of Day by Day. 3 hours and 1 lab. F

312 Principles of Silviculture (3) Principles for improving forest stands. Achievement of stand objectives. Prereq: Chemistry 180, Cons, Pet 213, 311, and (for Forestry majors) 3 hours and 1 hour and 1 lab. F

314 Wildlife Habitat Evaluation and Management (3) Ecological relationships of wildlife with their habitat. Evaluation, modeling, and management of wildlife habitat. Effects of land-use practices on wildlife habitat. Field trips may be required. Prereq: 317 and consent of instructor. " hours and 2 lab hours. F

315 Wildlife Management (3) Principles of wildlife law and regulation and their use in wildlife management techniques. Prereq: 314 and consent of instructor. " hours and 2 lab hours. F

323 Wood Adhesives and Glue Wood Products (2) Basic properties and production processes of adhesives and glues used for bonding wood. Prereq: 315 and consent of instructor. 1 hour lecture and 2 hour lab. " hours and 2 lab hours. F

324 Wood Processing and Manufacturing (3) Processing techniques of various wood products and introduction processing into major products. Fundamentals of ad- diction technology for major types of cutting operations, including sawing, boring, planing, veneer cutting, and surfacing. Prereq: 317 and consent of instructor. 1 hour lecture and 2 lab hours. F

326 Wood Industry Survey (1) Industry descriptions and characteristics of major types of wood products, such as plywood, furniture, and woodworking. Field trips required. Prereq: 317 and consent of instructor. Satisfactory/No credit only. Credit.

334 Advanced Research Paper (3) Directed research on selected topics. Prereq: 3 hours in 317-324 or consent of instructor and team members. Satisfactory/No credit only. Credit.

340 Independent Study (1-15) Special individual research in forestry. Letter grade or Satisfactory/No credit only. Credit.

345 Internship in Wildland Recreation (4) A highly structured, supervised experience in preparing graduates for employment. Prereq: 317 and consent of instructor. No auditors. Credit only.

FORESTY, WILDLIFE AND FISHERIES (398)

108 Current issues in Renewable Natural Resources (1) Current resource issues presented by invited guest speaker each week; student discussion and interaction with speaker, some written work (reports), topics and speakers changing each offering; attendance required of all meetings. Field trips may be required. Prereq: Forestry 305. Satisfactory/No credit only. Credit.


311 Dendrology and Silvics of North American Trees (3) Identification and classification of trees and important North American woods and woody; related associations; characteristic features of trees and their uses. Prereq: 10 years of Day by Day. 3 hours and 1 lab. F

312 Principles of Silviculture (3) Principles for improving forest stands. Achievement of stand objectives. Prereq: Chemistry 180, Cons, Pet 213, 311, and (for Forestry majors) 3 hours and 1 hour and 1 lab. F

314 Wildlife Habitat Evaluation and Management (3) Ecological relationships of wildlife with their habitat. Evaluation, modeling, and management of wildlife habitat. Effects of land-use practices on wildlife habitat. Field trips may be required. Prereq: 317 and consent of instructor. " hours and 2 lab hours. F

315 Wildlife Management (3) Principles of wildlife law and regulation and their use in wildlife management techniques. Prereq: 314 and consent of instructor. " hours and 2 lab hours. F

323 Wood Adhesives and Glue Wood Products (2) Basic properties and production processes of adhesives and glues used for bonding wood. Prereq: 315 and consent of instructor. 1 hour lecture and 2 hour lab. " hours and 2 lab hours. F

324 Wood Processing and Manufacturing (3) Processing techniques of various wood products and introduction processing into major products. Fundamentals of ad- diction technology for major types of cutting operations, including sawing, boring, planing, veneer cutting, and surfacing. Prereq: 317 and consent of instructor. 1 hour lecture and 2 lab hours. F

326 Wood Industry Survey (1) Industry descriptions and characteristics of major types of wood products, such as plywood, furniture, and woodworking. Field trips required. Prereq: 317 and consent of instructor. Satisfactory/No credit only. Credit.

334 Advanced Research Paper (3) Directed research on selected topics. Prereq: 3 hours in 317-324 or consent of institution and team members. Satisfactory/No credit only. Credit.

340 Independent Study (1-15) Special individual research in forestry. Letter grade or Satisfactory/No credit only. Credit.

345 Internship in Wildland Recreation (4) A highly structured, supervised experience in preparing graduates for employment. Prereq: 317 and consent of instructor. No auditors. Credit only.

351 History of French Literature (3) Chrono- logical review of French literature and its influence on national developments that have influenced it. Prereq: French 212. F

353 Aspects of French Literature (3) Study of selected aspects of French literature. Prereq: 212 or equivalent. Credit.

358 French for Business (3) Contemporary French language as it applies to business transactions. Under- standing and composing business letters; oral commu- nication and elements of French culture related to good business practices. Either 340 or 345 may be applied to major but not both. Prereq: 317 or consent of instructor.

359-362 History of French Literature (3,3,3) Chrono- logical review of French literature and its influence on national developments that have influenced it. Prereq: French 212. F

363-366 History of French Literature (3,3,3) Chrono- logical review of French literature and its influence on national developments that have influenced it. Prereq: French 212. F

368 French Literature of the 17th Century (3) Emphasis on the major but not both. Prereq: 317 or consent of instructor.

370-372 Modern French (3,3,3) For students who have completed the intermediate level sequence and who need additional preparation in reading, listening, and reading. Oral communication and analyses of issues regarding forestry, wild-
Courses of Instruction

411 Computer Mapping and Geographic Information Systems (3) Cartographic management and presentation of geographic data structures, 2 hours lecture per week; Prereq: 319 and completion of a computer language or consent of instructor.

412 Advanced Cartography Techniques (1) Cartographic design and data display techniques for making maps and methods of production. Prereq: 319 or consent of instructor.

413 Remote Sensing: Types and Applications (2) Principles and uses of remote sensing imagery, digital data, and spatial data, with particular emphasis on remote sensing techniques. Prereq: 319 or consent of instructor.

414 Quantitative Methods in Geography (3) Geographical application of statistical techniques: proportion, correlation, and analysis of data in social, physical, and cultural geography. Prereq: Math 115 or 211 or two semesters of calculus or consent of instructor.

420 Practicum in Cartography/Raster Sensing (2) Supervised practice in design and production of maps and other materials in the Cartography and Remote Sensing Laboratory. A similar organization. Prereq: Written consent of department prior to registration. S/NC or letter grade.

421 Advanced Natural Science of Cartography (3) Study of cartographic and remote sensing problems. Prereq: Math 115 or consent of instructor.

422 Computer Language (3) Cartographic design and data display techniques for making maps and methods of production. Prereq: 319 or consent of instructor.

423-424 Advanced Conversation (1,1) Informal conversation with native speaker on contemporary topics. Credit in class contact rather than outside preparation. Meets two hours a week for one semester credit. Prereq: French 334 or 345.

425-426 Methods of Historical Linguistics (1,1) Historical and comparative study of the evolution of language, focusing on the role of phonology, morphology, syntax, semantics, and sociolinguistic factors. Discussion of the evolution of the languages and to the study of the evolution of the Romance languages. Prereq: French 334 or 345. (Same as Russian 425, German 426, and Linguistics 426.)(Same as German 426, Russian 425.)

426 History of the French Language (3) History of the French tongue from early times to the present. Prereq: French 334 or 345. (Same as German 427, Russian 426.)(Same as German 426, Russian 425.)

427 Advanced Essay Writing (3) Writing-intensive course. Prereq: French 334 or 345.

430 Theatrical French (3) Comprehensive examination of the French theatre of the past and present. Prereq: French 334 or 345. (Same as Drama 430, Theater 430.)(Same as Drama 430, Theater 430.)

431-432 Advanced Conversation (1,1) Informal conversation with native speaker on contemporary topics. Credit in class contact rather than outside preparation. Meets two hours a week for one semester credit. Prereq: French 334 or 345.

433 The Land-Surface System (3) Characteristicsof surfaceform, water, vegetation, and surfacematerials, and theirregionalinterrelationships. People as evaluat-ors and agentsof change. Prereq: 131-132 or consent ofinstructor.


435-436 Practicum in Cartography/Remote Sensing (2,2) Supervised practice in design and production of maps and in the Graphic Services Laboratory or a similar organization. Prereq: Written consent of department prior to registration. S/NC or letter grade.

436 The Land-Surface System (3) Characteristicsof surfaceform, water, vegetation, and surfacematerials, and theirregionalinterrelationships. People as evaluat-ors and agentsof change. Prereq: 131-132 or consent ofinstructor.

437 Political Geography of the United States (3) Study of the changing distribution of political units and their boundaries, and relationships of climate and human political, economic, and social regions. Analysis of agents of change. Prereq: 131-132 or consent of instructor.

438 Geography of Appalachia (3) Climatological and topographic characteristics of the region, with particular emphasis upon economic and cultural phenomena. Prereq: Math 115 or consent of instructor.


440 Advanced French for Business (3) Study of spoken and written French as spoken and written by business people in France and Canada. Prereq: French 334 or 345.

441-442 Practicum in Cartography/Remote Sensing (2,2) Supervised practice in design and production of maps and in the Graphic Services Laboratory or a similar organization. Prereq: Written consent of department prior to registration. S/NC or letter grade.

443-444 Practicum in Cartography/Remote Sensing (2,2) Supervised practice in design and production of maps and other materials in the Cartography and Remote Sensing Laboratory. A similar organization. Prereq: Written consent of department prior to registration. S/NC or letter grade.

445 Advanced French for Business (3) Study of spoken and written French as spoken and written by business people in France and Canada. Prereq: French 334 or 345.

446-447 Practicum in Cartography/Remote Sensing (2,2) Supervised practice in design and production of maps and other materials in the Cartography and Remote Sensing Laboratory. A similar organization. Prereq: Written consent of department prior to registration. S/NC or letter grade.
GEOLOGY (424)

101 The Dynamic Earth (4) Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. May not be applied toward the Geology major or minor. 4 lecture hours and two 2-hour lab periods.

106 Thai and Chinese (3) Prereq: consent of instructor. 2 lecture hours and one 2-hour lab. May be repeated if content varies. May not be applied toward the Geology major or minor. 3 or 6 semester hours.

162 German, Special Topics (3) If content varies, may be repeated if content varies. May not be applied toward the Geology major or minor. 3 semester hours.

180 Introduction to Aquifer Analysis (3) Prereq: Consent of instructor. Introduction to the formation, structure, and occurrence of groundwater. 3 lecture hours and two 2-hour lab periods.

420 Quantitative Methods in Geology (3) Applications of statistical and differential equations to problems in the earth sciences. Examination of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. 4 lecture hours and two 2-hour lab periods.

101 The Dynamic Earth (4) Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. May not be applied toward the Geology major or minor. 4 lecture hours and two 2-hour lab periods.

106 Thai and Chinese (3) Prereq: consent of instructor. 2 lecture hours and one 2-hour lab. May be repeated if content varies. May not be applied toward the Geology major or minor. 3 or 6 semester hours.

162 German, Special Topics (3) If content varies, may be repeated if content varies. May not be applied toward the Geology major or minor. 3 semester hours.

180 Introduction to Aquifer Analysis (3) Prereq: Consent of instructor. Introduction to the formation, structure, and occurrence of groundwater. 3 lecture hours and two 2-hour lab periods.

420 Quantitative Methods in Geology (3) Applications of statistical and differential equations to problems in the earth sciences. Examination of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. 4 lecture hours and two 2-hour lab periods.

101 The Dynamic Earth (4) Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. May not be applied toward the Geology major or minor. 4 lecture hours and two 2-hour lab periods.

106 Thai and Chinese (3) Prereq: consent of instructor. 2 lecture hours and one 2-hour lab. May be repeated if content varies. May not be applied toward the Geology major or minor. 3 or 6 semester hours.

162 German, Special Topics (3) If content varies, may be repeated if content varies. May not be applied toward the Geology major or minor. 3 semester hours.

180 Introduction to Aquifer Analysis (3) Prereq: Consent of instructor. Introduction to the formation, structure, and occurrence of groundwater. 3 lecture hours and two 2-hour lab periods.

420 Quantitative Methods in Geology (3) Applications of statistical and differential equations to problems in the earth sciences. Examination of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. 4 lecture hours and two 2-hour lab periods.

101 The Dynamic Earth (4) Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. May not be applied toward the Geology major or minor. 4 lecture hours and two 2-hour lab periods.

106 Thai and Chinese (3) Prereq: consent of instructor. 2 lecture hours and one 2-hour lab. May be repeated if content varies. May not be applied toward the Geology major or minor. 3 or 6 semester hours.

162 German, Special Topics (3) If content varies, may be repeated if content varies. May not be applied toward the Geology major or minor. 3 semester hours.

180 Introduction to Aquifer Analysis (3) Prereq: Consent of instructor. Introduction to the formation, structure, and occurrence of groundwater. 3 lecture hours and two 2-hour lab periods.

420 Quantitative Methods in Geology (3) Applications of statistical and differential equations to problems in the earth sciences. Examination of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. 4 lecture hours and two 2-hour lab periods.

101 The Dynamic Earth (4) Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. May not be applied toward the Geology major or minor. 4 lecture hours and two 2-hour lab periods.

106 Thai and Chinese (3) Prereq: consent of instructor. 2 lecture hours and one 2-hour lab. May be repeated if content varies. May not be applied toward the Geology major or minor. 3 or 6 semester hours.

162 German, Special Topics (3) If content varies, may be repeated if content varies. May not be applied toward the Geology major or minor. 3 semester hours.

180 Introduction to Aquifer Analysis (3) Prereq: Consent of instructor. Introduction to the formation, structure, and occurrence of groundwater. 3 lecture hours and two 2-hour lab periods.

420 Quantitative Methods in Geology (3) Applications of statistical and differential equations to problems in the earth sciences. Examination of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. 4 lecture hours and two 2-hour lab periods.

101 The Dynamic Earth (4) Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. May not be applied toward the Geology major or minor. 4 lecture hours and two 2-hour lab periods.

106 Thai and Chinese (3) Prereq: consent of instructor. 2 lecture hours and one 2-hour lab. May be repeated if content varies. May not be applied toward the Geology major or minor. 3 or 6 semester hours.

162 German, Special Topics (3) If content varies, may be repeated if content varies. May not be applied toward the Geology major or minor. 3 semester hours.

180 Introduction to Aquifer Analysis (3) Prereq: Consent of instructor. Introduction to the formation, structure, and occurrence of groundwater. 3 lecture hours and two 2-hour lab periods.

420 Quantitative Methods in Geology (3) Applications of statistical and differential equations to problems in the earth sciences. Examination of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. Laboratory: the solution of the wave equation in geophysics, mathematical modeling and probability, and applications to hydrology. 4 lecture hours and two 2-hour lab periods.

101 The Dynamic Earth (4) Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. May not be applied toward the Geology major or minor. 4 lecture hours and two 2-hour lab periods.

106 Thai and Chinese (3) Prereq: consent of instructor. 2 lecture hours and one 2-hour lab. May be repeated if content varies. May not be applied toward the Geology major or minor. 3 or 6 semester hours.

162 German, Special Topics (3) If content varies, may be repeated if content varies. May not be applied toward the Geology major or minor. 3 semester hours.

180 Introduction to Aquifer Analysis (3) Prereq: Consent of instructor. Introduction to the formation, structure, and occurrence of groundwater. 3 lecture hours and two 2-hour lab periods.
COURSES OF INSTRUCTION

306. Readings in German (3) Topics in medieval and Renaissance literature. Oral or written examination required. Prereq: 9 credits or consent of instructor.

307. German Language and Civilization (3) Elementary German language and culture. Oral or written examination required. Prereq: 600 or consent of instructor.

436. Development of the German Language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

435. Substance Use and Abuse (3) Drug and alcohol problems, treatment of substance use disorders, health promotion and prevention, theories for intervention, and prevention techniques. Prereq: Consent of instructor. May be repeated for credit. 3 credits.

430. Suicide and Crisis Intervention (3) Factors which make suicide a serious human problem. Assessment, intervention, and prevention techniques. Prereq: Consent of instructor. May be repeated for credit. 3 credits.

435. History of the German Language (3,3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

436. History of the German Language (3) Topics in medieval and Renaissance literature. Oral or written examination required. Prereq: 9 credits or consent of instructor.

477.411 Seminar in German Literature, Vol. I: Introduction to Indo-European studies. Oral or written examination required. Prereq: German 301 or consent of instructor.

301. German Conversation and Composition (3,3) Oral and written communication in German. Prereq: German 122 or consent of instructor.

302. German Special Topics (3) Content varies. May be repeated for credit. 3 credits.

426. Selected Readings in German Literature from 1750 to 1877. Oral or written examination required. Prereq: German 301 or consent of instructor.

431. History of the German Language (3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

432. History of the German Language (3,3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

433. Structure of the German Language (3,3) Systematic review of the phonology and morphology of the German language. Oral or written examination required. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

434. History of the German Language (3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

435. History of the German Language (3) Topics in medieval and Renaissance literature. Oral or written examination required. Prereq: 9 credits or consent of instructor.

436. History of the German Language (3,3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

477.411 Seminar in German Literature, Vol. I: Introduction to Indo-European studies. Oral or written examination required. Prereq: German 301 or consent of instructor.

436. Development of the German Language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

435. Substance Use and Abuse (3) Drug and alcohol problems, treatment of substance use disorders, health promotion and prevention, theories for intervention, and prevention techniques. Prereq: Consent of instructor. May be repeated for credit. 3 credits.

430. Suicide and Crisis Intervention (3) Factors which make suicide a serious human problem. Assessment, intervention, and prevention techniques. Prereq: Consent of instructor. May be repeated for credit. 3 credits.

435. History of the German Language (3,3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German, and New High German. Corequisite: concurrent enrollment in the designated honors discussion section. Prereq: German 301.

436. History of the German Language (3) Topics in medieval and Renaissance literature. Oral or written examination required. Prereq: 9 credits or consent of instructor.
with the end of the older order in the Age of Napoleon. Republic to Hitler's Third Reich, to Adenauer's Federal Republic, to Bismarck's Second Reich, to the Weimar industrialization and wars, from Metternich's Confederations to the Austrian-Prussian dualism in the time of the German lands, from the medieval empire of 1815. The First Reich's Fortune and Failure. The development of the dual tendency among Americans to express abhorrence to war and imperial conquests and, at the same time, to engage in war and exercise economic or political pressure in order to achieve that goal. Issues of cultural disruption. Writing-emphasis course. 

917 Historical Indications of Current World Conflict (3,3) Historical indications of current world conflict. The evolution of the dual tendency among Americans to express abhorrence to war and imperial conquests and, at the same time, to engage in war and exercise economic or political pressure in order to achieve that goal. Issues of cultural disruption. Writing-emphasis course.

918 Evolution of Current World Conflict (3,3) Evolution of current world conflict. The evolution of the dual tendency among Americans to express abhorrence to war and imperial conquests and, at the same time, to engage in war and exercise economic or political pressure in order to achieve that goal. Issues of cultural disruption. Writing-emphasis course.

919 A History of American Foreign Policy (3,3) A history of American foreign policy. The evolution of the dual tendency among Americans to express abhorrence to war and imperial conquests and, at the same time, to engage in war and exercise economic or political pressure in order to achieve that goal. Issues of cultural disruption. Writing-emphasis course.

920 A History of American Foreign Relations (3,3) A history of American foreign relations. The evolution of the dual tendency among Americans to express abhorrence to war and imperial conquests and, at the same time, to engage in war and exercise economic or political pressure in order to achieve that goal. Issues of cultural disruption. Writing-emphasis course.
353. Educational Curriculum & Instruction and Ad-
mission to Teacher Education Program. Coreq. 430.
Satisfactory/No Credit only. Sp.

354. Psychology and Education of Students with
Special Needs. Prereq. MATH 103. Individuals with
special needs and the educational strategies appropriate for those
persons. Prereq. 210, 211, 430 and Admission to Teacher Edu-
cation Program. Sp.

404. Teaching Strategies and Issues in Social Stu-
dies Education (3) Goals, objectives, techniques, repri-
sentation, organization, and evaluation of social studies
schools, preparation of teaching plans and materials, assessing
accomplished teaching experiences. Prereq. Admission to Teacher
Education Program. F.

406. Research and Language Roles of Learning Dis-
abilities in the Classroom (3) Normal communication
deviation, disabilities, various theories, instructional im-
portance in age-sex socialization; integration of self-
efficacy, career, school, social skills, as well as future
importance in special education study.

407. Psychology of the Exceptional Child (3) General
characteristics, disabilities, techniques, remediation for
children. Implications of developmental variations for
functions as adults. Limited to non-education majors.

410. Directed Independent Study (1-5) Tutorial and
independent study. Prereq. consent of instructor. May be
repeated. Consent of instructor. Satisfactory/No Credit.

415. Supervised Research (1-5) Tutorial. Prereq.
May be repeated. Maximum 15 hours. E.

418 Special Topics (1-5) Tutorial. Prereq. May be
repeated. Maximum 12 hours. E.

423 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

425 Hospitality Sales and Marketing (3) Strategic
marketing for lodging and restaurant organizations. In-
corporation, including investments, marketing for lodging and
restaurant organizations. Includes various prime movers, methods of utilization, distribution, and transac-
tion. Paper as a means of viewing the day-to-day

161. Communication and Public Speaking (3) The
importance of communication in a societal setting, and the impact
of nonverbal communication. Prereq. 100 hour of verifiable work
experience.

430 Student Teaching in Vocational Home Eco-
nomics (3) Supervised placement. Prereq. 100 hours of verifiable work
experience. Satisfactory/No Credit only.

432 Psychology and Education of Students with
Moderate/Severe Disabilities (ti) Nature and charac-
teristics of persons with moderate/severe disabilities
and their interactions with the environment. Prereq. 320, 321 or
322; Bus. Law 301 or consent of the instructor.

435 Hospitality Sales and Marketing (3) Strategic
marketing for lodging and restaurant organizations. In-
corporation, including investments, marketing for lodging and
restaurant organizations. Includes various prime movers, methods of utilization, distribution, and transac-
tion. Paper as a means of viewing the day-to-day
time line. Prereq. 320, 321 or 322; Bus. Law 301 or consent of the instructor.

436 Directed Study: Hotel and Restaurant Adminis-
tration (1-3) Topics vary. Prereq. Senior standing, consent of
the instructor. Satisfactory/No Credit only.

440 Special Topics: Hotel and Restaurant Adminis-
tration (1-3) Topics vary. Prereq. Senior standing, consent of
the instructor. Satisfactory/No Credit only.

445 Advanced Food Production and Service Man-
gement (3) Application of management concepts in
recent trends, promotion, cost control and production
and service of food. 2 hours and lab. Prereq. 320.

450 Advanced Lodging Management (3) Explores
the major hospitality industry segments, including hotel,
management, and lodging systems. Prereq. 320, 321 or
322; Bus. Law 301 or consent of the instructor.

456 Speech and Language Basis of Learning Dis-
erabilities (3) Nature and characteristics of learning dis-
erabilities and the relationship of individuals, families, and
social systems. Prereq. Consent of instructor.

460 Directed Study: Human Ecology (1-3) Topic ar-
bitrary. Prereq. Consent of instructor. May be
repeated. Maximum 6 hours.

500. Individuals, Society, and Technology (3) An over-
view of the technologies and human innovation is used to
help formulate student awareness of the impact on society from
issues and problems over the life. Prereq. Consent of the
instructor.

510. Marketing Management (3) A detailed study of
marketing strategy. Prereq. 320, 321 or
322; Bus. Law 301 or consent of the instructor.

585 Fundamentals of Business Law (3) A study of
business law and practice. Prereq. 320, 321 or
322; Bus. Law 301 or consent of the instructor.

592G Directed Study: Human Ecology (1-3) Topic ar-
bitrary. Prereq. Consent of instructor. May be
repeated. Maximum 6 hours.

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

598 Directed Study: Human Ecology (1-3) Topic ar-
bitrary. Prereq. Consent of instructor. May be
repeated. Maximum 6 hours.

600. Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

606 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

614 Hospitality Sales and Marketing (3) Strategic
marketing for lodging and restaurant organizations. In-
corporation, including investments, marketing for lodging and
restaurant organizations. Includes various prime movers, methods of utilization, distribution, and transac-
tion. Paper as a means of viewing the day-to-day
time line. Prereq. 320, 321 or 322; Bus. Law 301 or consent of the instructor.

624 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

625 Hospitality Sales and Marketing (3) Strategic
marketing for lodging and restaurant organizations. In-
corporation, including investments, marketing for lodging and
restaurant organizations. Includes various prime movers, methods of utilization, distribution, and transac-
tion. Paper as a means of viewing the day-to-day
time line. Prereq. 320, 321 or 322; Bus. Law 301 or consent of the instructor.

630 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

635 Hospitality Sales and Marketing (3) Strategic
marketing for lodging and restaurant organizations. In-
corporation, including investments, marketing for lodging and
restaurant organizations. Includes various prime movers, methods of utilization, distribution, and transac-
tion. Paper as a means of viewing the day-to-day
time line. Prereq. 320, 321 or 322; Bus. Law 301 or consent of the instructor.

640 Directed Study: Human Ecology (1-3) Topic ar-
bitrary. Prereq. Consent of instructor. May be
repeated. Maximum 6 hours.

645 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

650 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

660 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

670 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.

680 Hospitality Law (3) Legal rights and responsi-
bilities. Satisfactory/No Credit only.
Courses of Instruction

381 Manipulative Skills in Occupations (1-10) Applicable skills in a field of occupational experience comparable with state, provincial, or national requirements. Individualized. The title of the course and the description of the competencies evaluated in portfolio are subject to change and will be effective upon the written approval of the Student Development Office.

392 Practicum in Industrial Education (1-10) Updating and participating in experiential activities in their field of teaching. Prerequisite: Graduation. May be repeated. Maximum 10 hours. Satisfactory/No Credit only. E


396 Print Textile (3) Characteristics and applications of thermoplastic and thermosetting materials. Printing equipment, related product design and processing of plastics. Prereq: 360 and admission to Teacher Education Program. Sp


411 Managing Occupational Education Programs (3) Group needs of institutions of occupational education. Strategies of delivery, community responses, and task-analysis aimed at meeting the needs of students and society. Prereq: 393. E

415 Coordination Techniques (3) Necessary procedures, duties, and responsibilities to implement, maintain, and evaluate occupational education programs as they relate to teaching, learning, task-analysis, evaluation, and professional development. Prereq: 393.

420 Introduction to Adult Education (3) Broadens adult education activities and the diversity of adult educators. Provides opportunities for professional practice apart from traditional instructional settings. A

421 Adult Behavior and Education Management (3) Processes of program development and implementation. Emphasis on the various professions, orientations, and roles that serve the needs of adult education students. Prereq: 420.

422 Adult Development and Training (3) Application of adult development concepts to design and manage education programs to meet the needs of adult learners. Prereq: 420.

430 Principles and Organization of Business Markets (3) Relationship of environmental background and development needs. Principles of vocational education in business (marketing/vertical integration/enterprise marketing/enterprise marketing), evaluating, and implementing the programs. Prereq: Admissions to Teacher Education Program. Sp

450 Business and Marketing Education Youth Programs (3) Youth programs related to the institutionalized areas of business education and marketing education. Prereq: 430.

441 Materials and Processes (3) Production of metallic materials, control of quality, test methods, and control of production process. Prereq: 430.

442 Materials and Processes II (3) Production of metallic materials, control, and quality testing. Prereq: 430.

450 Technology in Learning Environments (3) The use of diverse technology for creating and facilitating learning opportunities and learning. Interactive strategies that aid in the acquisition of academic skills for learners. Component of Technology in Learning Environments. Prereq: 371 and 441.

450 Learner and Program Evaluation (3) Assessing the effectiveness of training or educational programs; job performance; and measuring learner progress. Development of performance-based measures; evaluating and reporting. Prereq: 350.

460 Principles of Supervision/Leadership (3) Problems of motivation, communication, interpersonal relations, and leadership. Prereq: 350.

473 Integrating Organizational and Career Development (3) Methods of organizational development: stability and change; problem-solving activities within career development, expectations and responsibilities of learners in these programs. Prereq: 411.


479 Supervised Occupational Experience (3) Practical field experience in human services/organizational-based settings related to the area of study. May be repeated for a maximum of 8 semester hours. Satisfactory/No Credit only. F

480 Directed Study in Human Resource Development (3) Topic areas involved in individual situations. May be repeated for a maximum of 8 semester hours. Prereq: Junior or senior standing.

483 Directed Study in Family and Consumer Science Education (3-4) Preparation for teaching and managing secondary school programs in Family and Consumer Science. F

493 Special Topic in Human Resource Development (1-3) Topic to be assigned. May be repeated.

HUMAN SERVICES (532)

220 Introduction to Human Services (2) Focus on the various roles and concerns in the human services field. Emphasis on the various career fields. Prereq: 361. F


330 Human Services Methodologies (2) Emphasis on the helping roles of general knowledge in the field. Prereq: 361.


392 Practicum in Early Childhood Special Education (6) Placement in educational settings serving young children with special needs. Prereq: Progression to the major. F

395 Practicum in Early Childhood Inclusive Education (2-5) Placement in educational settings serving young children with special needs. Prereq: Progression to the major. F

430 Human Services Methodologies II (3) Topics of critical importance in human services. Prereq: Progression to the major. F

430 Human Services Methodologies III (3) Experiences in the delivery of psychological, sociological, and educational factors. Prereq: Progression to the major. F

430 Working Within the System (3) Emphasis on the delivery of psychological, sociological, and educational factors. Prereq: Progression to the major. F

440 Human Services Field Work (3) Practical field experiences in appropriately organized and structured human service settings. Prerequisites: permission of principal professional faculty, or approval of advisor. Prereq: 360, 400, Coreq: 445. Satisfactory/No Credit only. F

440 Human Services Field Work II (3) Practical field experiences in appropriately organized and structured human service settings. Prerequisites: permission of principal professional faculty, or approval of advisor. Prereq: 360, 400, Coreq: 445. Satisfactory/No Credit only. F

495 Special Topics (1-3) Topic to be assigned. May be repeated. Maximum 6 hours.

495 Special Topics (1-3) Topic to be assigned. May be repeated. Maximum 6 hours. E

499 Foreign Study (1-15) Topic to be assigned. May be repeated. Maximum 12 hours. E

494 Independent Study (1-15) Topic to be assigned. May be repeated. Maximum 12 hours. E

INCLUSIVE EARLY CHILDHOOD EDUCATION (542)

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 within the field; history; Admission to Teacher Education Program. F


440 Educational Experiences for the Gifted and Talented Children (3) Psychometric and behavioral studies of giftedness. Analysis of past and present school practices in reference to curriculum and program implementation. Prereq: Admission to Teacher Education Program.


491 Field Experience in Early Childhood Special Education (6) Placement in educational settings serving young children with special needs. Prereq: Progression to the major. F

493 Independent Study (1-3) Topic to be assigned. May be repeated. Maximum 6 hours. E

494 Independent Study (1-3) Topic to be assigned. May be repeated. Maximum 6 hours. E

INFORMATION SCIENCES (560)

106 Information Foundations (3) Nature of information; its role in decision making; communication, dissemination, retrieval, transfer, use in society, ethics, philosophy, copyright, intellectual property, standards, and human-computer interaction; computer-based tools. Prereq: 106.

110 Information Retrieval Principles (3) Information management applications: software identification and use, and implementation of policy. Prereq: 106.

115 Information Systems and Technology for National Network Connections (3) Understanding and use of network and technology for national network connections; information science via computers. Undergraduate credit only.

118 Information Needs Analysis (3) Analysis of the information needs of the public and the methods of collecting, organizing, prioritizing, and sharing information to meet those needs. Prereq: 115.

125 Information Seeking: Resources and Strategies (3) Theories of information seeking; user roles; models of seeking; and paradigms of information seeking. Prereq: 115.

361 Information Retrieval (3) History of literature: reference to specific topics, creating, distributing, and organizing information needs. Prereq: 115.

363 Books and Related Materials for Children (3) Materials for children in leisure time or classroom activities: criteria for selecting books, magazines, recordings, and films, including a study of library and educational media; and other data and media technologies. Prereq: 115. Undergraduate credit only.

20. Writing About Science, Technology and Medicine (3) Same as science 492.

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

44. Electronic Communication and Information Resources on the Internet (3) Exploration of worldwide information and communication resources including email, groupware, Archie, WAIS, WAIS-like search engines, newsgroups, and telnet. E

45. Information Environment (3) Generation, utilization, management, and use of information. Review of library access to information and user behavior. Information industry, economic information systems and dynamics, technological and organizational change, information professions, and libraries. E, S

INTERDISCIPLINARY PROGRAMS (581)

100. Selected Topics (1-3) May be repeated. Maximum 6 hours.

386. Independent Study (1-9) May be repeated. May be repeated for a maximum of 6 hours. F

INTERIOR DESIGN (582)

141. Introduction to Interior Design (2) Orientation to the profession; relationship to selected fields.comparative education philosophies, design principles, visual and spatial elements within simple and complex visual systems; role of movement in interior and exterior spaces. Five hour lecture. F

300. Human Factors/Regulation by permission of director of Interior Design Studies.

304. Honors: Interior Design (1-4) Advanced research under the supervision of a faculty member. May be repeated. Maximum 8 hours. Prerequisite: consent of instructor. F

411. History of American Interior Architecture (3) Historical developments in interior architecture and decoration arts within cultural context, colonial era through mid-twentieth century. Prerequisite: consent of instructor.

414. Furniture Design (4) Human factors data applied to the computer-aided design process, database, spreadsheet programs, and computer-aided drafting. Three hour lecture and two hour studio. Prerequisite: consent of instructor. Sp

417. Practicum for Interior Design (12) Supervised work experience. Internship in a design firm with hourly supervision. One hour lecture and one hour studio. Prerequisite: consent of instructor. Sp

420. Directed Studies in Interior Design (1-4) Student projects. May be repeated for a maximum of 6 hours. Prerequisite: consent of instructor.

431. Theory of Color (2) Introduction to basic color theory and its application to interior environments. Perception and psychophysical effects. Sp

331. Micro-Computers for Interior Design (3) Introduction to microcomputer hardware, software, user environment. Background in the design field and computer applications in interior design. Prerequisite: written permission of instructor. Coreq. 271, Interior Design majors only.

332. Interdisciplinary Interior Design (2) Orientation to selected fields. Comparative education philosophies, design principles, visual and spatial elements within simple and complex visual systems; role of movement in interior and exterior spaces. Five hour lecture.

337. History of Interior Architecture (4) Historical developments in interior architecture and decoration arts within cultural context, colonial era through mid-twentieth century. Prerequisite: consent of instructor.

339. Furniture Design (4) Human factors data applied to the computer-aided design process, database, spreadsheet programs, and computer-aided drafting. Three hour lecture and two hour studio. Prerequisite: consent of instructor. Sp

450. Writing About Science, Technology and Medicine (3) Exploration of worldwide information and communication resources including email, groupware, Archie, WAIS, WAIS-like search engines, newsgroups, and telnet. E

480. Furniture Design (4) Human factors data applied to the computer-aided design process, database, spreadsheet programs, and computer-aided drafting. Three hour lecture and two hour studio. Prerequisite: consent of instructor. Sp

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

490. Furniture Design (4) Human factors data applied to the computer-aided design process, database, spreadsheet programs, and computer-aided drafting. Three hour lecture and two hour studio. Prerequisite: consent of instructor. Sp

493. Directed Studies in Interior Design (1-4) Student projects. May be repeated for a maximum of 6 hours. Prerequisite: consent of instructor.
JOURNALISM (594)


280 Communications Graphics (3) Principles and practice in the visual aspects of communications. Emphasis on graphic design, typography, illustration and the layout of print production. Also includes production techniques and prepress design, layout and laboratory. Prereq: 200 or 201, or consent of instructor.


310 Feature Writing (3) Skills of a journalist for writing feature articles for newspapers, magazines and commercial publications. Emphasis upon the uses of descriptive language, characterization, and the construction of characters in print media. Required for majors in the College of Communications. Prereq: Consent of instructor.


402 International Communications (2) Development and operation of world mass communications channels, both for analysis of media, mass media, mass communication, news, and current events. Study of the role of social, political, and cultural factors in the operation of international news media and understanding. F.

412 Copy Editing (3) Analysis of editorial practices, programs, and policies. Writing editorials and columns for newspapers and commercial publications. Emphasis upon the use of descriptive language, the use of copy editing tools and technology. Prereq: 202 or consent of instructor.

454 Magazine Article Writing (3) Techniques of writing in the modern magazine. Emphasis is placed on magazine writing, magazine reporting, and magazine editing. Prereq: 203 or 205 and English 102. Consent of instructor. Prereq: English 102. F.

JUDICIA STUDIES (595)

371 Ancient Roman History (3) Writing emphasis course. (Same as History 371.)

372 Religious Aspects of Biblical and Classical Literature Emphasis course. (Same as Religious Studies 372.)

380 Women and Religion (3) Emphasis course. (Same as Religious Studies 380.)

392 German-Jewish Topics in Literature and Culture Emphasis course. (Same as Philosophy 322 and Medieval Studies 322.)

432 German-Jewish Topics in Literature and Culture Emphasis course. (Same as Philosophy 322 and Medieval Studies 322.)

493 Latin 251. Since 150 is a review of elementary Latin, credit will not be awarded through placement examination.

494 Supervised Readings (1-3) Topics to be assigned. May be repeated for credit. Maximum 12 hours. E

495 Special Topics (1-3) Topics to be assigned. May be repeated for credit. Maximum 9 hours. Prereq: Consent of instructor.

LATIN (257)

111-112 Beginning Latin (3,3) Must be taken in sequence. Continuing students must register for both 111 and 112. Prereq: Consent of instructor.

150 Latin Transition (3) This course is designed to prepare students for enrollment in Latin 251. Prereq: Consent of instructor.

251-252 Beginning Latin (3,3) Must be taken in sequence. Continuing students must register for both 251 and 252. Prereq: Latin 150. Consent of instructor.

351-352 or consent of instructor.

431 Medieval Art of the West, 800-1400 (3) Emphasis course. (Same as Art History 431 and Medieval Studies 381.)


492 Field Experience (1-2) Approved internships and other supervised practice in journalism. May be repeated for credit for a maximum of 12 credits. Prereq: Senior standing and consent of instructor. S

493 Independent Study (1-5) Topics to be assigned. May be repeated for credit. Maximum 12 hours. E

494 Supervised Readings (1-3) Topics to be assigned. May be repeated for credit. Maximum 12 hours. E

495 Special Topics (1-3) Topics to be assigned. May be repeated for credit. Maximum 9 hours. Prereq: Consent of instructor.
LINGUISTICS (623)

423 The Development of Electronic and Synchronous Linguistics (3) Development of means of understanding and working with language through computerized and electronic means, including the use of computerized translation. Emphasis will be on describing the processes used in the analysis of linguistic data and the design of computer programs for linguistic analysis. Prerequisites: Computer Science 126. 

424 Methods of Historical Linguistics (3) Same as French 424, German 424, Russian 424, and Spanish 424.

425 Romance Linguistics (3) Same as French 425 and Spanish 425.

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

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

428 American English (3) Same as English 472.

429 Teaching English as a Second or Foreign Language (3) Same as English 473.

430 Language and Law (3) Same as English 490.

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

432 Directed Readings in Russian and Slavic Literature (3) Same as Spanish 432.

433 Aspects of Luso Brazilian Literature (3) Same as Portuguese 431.

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

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

437 Survey of Spanish American Literature (3) Same as Spanish 436.

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

439 Modern Latin American History in Film (3) Same as History 463.

440 History of Mexico (3) Same as History 462.

441 Cuban Revolution in Historical Perspective (3) Same as History 461.

442 History of Mexico (3) Same as History 460.

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

444 History of Brazil (3) Same as History 460.

445 Latin American Studies Senior Seminar (3) Same as Spanish 460.

446 History of Latin America (3) Same as History 460.

447 Latin American Civilizations (3) Same as Spanish 471.

448-449 Survey of Spanish American Literature (3) Same as Spanish 472-473.

450 Spanish American History (3) Same as Spanish 474.

451 Foreign Study (3-15)

452 Foreign Study (3-15)

454 Independent Study (1-6)

LEADERSHIP STUDIES (619)

200 Student Leadership Development (3) Designed to enhance the leadership and managerial potential of students. Includes theoretical and experiential content related to planning, organizing, staffing, and controlling. Satisfaction on Credit/No Credit grading only.

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

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

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

401 Linguistic Anthropology (3) Same as Anthropology 411.

402 Organizational Psychology (3) Same as Psychology 411.

403 Business Strategy/Policy (3) Strategy and policy which affect the character and success of the total enterprise. Capstone course which will enable the organization to reach objectives. Major writing requirement. Prerequisites: Computer Science 126.

404 Management Information Systems (3) Management of information systems. Using the computer as a tool to source, organize, and analyze data. Designing information systems to meet business needs. Emphasis on systems development, database management systems, telecommunications, and information technology. Prerequisites: Open to College of Business Administration students only.

405 Principles of General and Operations Management (3) Basic functions of general management and the operations management. Include decisions and discussions of problems related to supervision, planning, organizing, coordinating, controlling, and problem-solving. Prerequisites: College of Business Administration students only.

410 Labor Relations and Collective Bargaining (3) American labor history, structure and philosophy of collective bargaining, arbitration, and the role played by various types of contingency attorneys. Return of collective bargaining, and legal aid to management. Prerequisites: Consent of instructor.

411 Labor Relations and Collective Bargaining (3) American labor history, structure and philosophy of collective bargaining, arbitration, and the role played by various types of contingency attorneys. Return of collective bargaining, and legal aid to management. Prerequisites: Consent of instructor.

413 Personnel Management (3) Theory, methods, and practices of the human resource management function. Special attention will be given to the managerial function of the total enterprise. Capstone course which integrates all functional areas of the firm. Open to Business Administration majors only. Prerequisites: Computer Science 126.

414 Business Policy/Strategy (3) Strategy and policy which affect the character and success of the total enterprise. Capstone course which integrates all functional areas of the firm. Open to Business Administration majors only. Prerequisites: Computer Science 126.

415 Total Quality Management (TQM) is characterized by these main principles: customer focus, continuous improvement, and teamwork. Course focuses on the management perspective that is necessary to successfully implement and sustain a TQM philosophy. Prerequisites: STAT 301, MGT 301, F, S

416 Human Resource Management (3) Principles and issues pertaining to successful personnel management. Prerequisites: Computer Science 126.

420 Transportation Operations and Cost Management (3) Freight carrier operations with the development of cost data and flow control considered by the means for individual and in coordination with each other. Prerequisites: Computer Science 126.

421 Logistics and Transportation (3) Multifunctional logistics strategy, report-export process, global sea, surface, and air operations comparative transport systems analysis. Prerequisites: Computer Science 126.

422 Logistics Information Infrastructure Strategy and Design (3) An introduction to information strategy and implementation. Emphasis will be on designing a logistics and transportation strategy using internet and intranet networks. Emphasis will be on preparing a systems strategy using upper CASE tools, and an unstructured system using groupware that will be internet accessible with access control. Prerequisites: Computer Science 126.

423 Project Management (3) Principles and issues pertaining to successful personnel management. Prerequisites: Computer Science 126.

424 Implementation and Evaluation of Personnel Programs (3) Developing, implementing, and evaluating various operating programs. Prerequisites: Computer Science 126.

440 Organizational Psychology (3) Same as Psychology 440.

462 Seminar in Logistics Strategy (3) Senior seminar in development logistics strategy. Major writing requirement. Prerequisites: Computer Science 126, Statistics 451, Statistical 452.

463 Seminar in Transportation Strategy (3) Seminar in transportation strategy. Major writing requirement. Prerequisites: Computer Science 126, Statistics 451, Statistical 452.

464 Logistics and Transportation Off-Campus Study (1-6) Satisfaction on Credit/No Credit grading only. Prerequisites: Consent of instructor.

465 Independent Study (1-6) Directed research on subject of mutual interest to student and faculty member. May be repeated. Minimum 6 credit hours. Prerequisites: Consent of instructor.

466 Honors: Executive in Residence in Transportation and Logistics (3) Designed to acquaint the student with the top-level logistics and transportation executives. Focus on the strategic decision-making process. Prerequisites: Consent of instructor.
**MANAGEMENT (627)**

301 Principles of Marketing (3) Practical applications of consumer behavior concepts and processes. Application to market analysis, design and control of marketing programs. Prereq: Marketing 301 and statistics 201.

305 Marketing Research and Information Planning (3) Marketing Research process from its inception to implementation of the study results. Students should be able to critically analyze the merit or a research project as well as possess the ability to design a sound marketing project. Major writing requirement. Prereq: Marketing 301 and Statistics 201.

314 Special Topics in Marketing (3) Topics of current interest in marketing. Topics introduced prior to offering. May be repeated once for additional credit provided topic varies. Prereq: Marketing 301 and Statistics 201.

320 Service Management (3) Self-paced tutorial center whose placement tests scores indicate additional preparation in mathematics is necessary. Students who have received a grade of C or better in 123-125 should take 119 instead of 110. Prereq: Two years of algebra and one year of geometry. Additional help (as determined by placement exams, for students taking Math 119, 123, or 130 who need additional help (as determined by placement exams, assessment exams, or classroom performance). Individual and computerized remediation on various pertinent algebraic skills. To receive credit, a student must pass the Math 115 placement test with a C or better. Prereq: Placement test with a C or better. May be taken for credit three times.

360 International Marketing (3) Specific issues involved in conducting marketing activities on a global as opposed to a domestic scale. Topics include international operations, assessing global marketing opportunity, post-ventures, timing and sequencing of entry, global strategic planning. Prereq: Marketing 310.

400 Special Problems (3) Self-paced tutorial center whose placement tests scores indicate additional preparation in mathematics is necessary. Students who have received a grade of C or better in 123-125 should take 119 instead of 110. Prereq: Two years of algebra and one year of geometry. Prereq: Two years of algebra and one year of geometry and half a year of trigonometry in high school and other satisfactory placement test scores on Math 100.

410 College Algebra (3) A review of algebraic functions, equations, and inequalities for students who satisfy the course prerequisites, including additional preparatory algebra content. Prereq: Placement test scores indicate additional preparation in mathematics is necessary. May be taken for credit three times. Prereq: Two years of algebra and one year of geometry and other satisfactory placement test scores on Math 100.

423 Finite Mathematics (3) For students not planning to major in the physical sciences, engineering, mathematics and computer science. Emphasizes discrete decision problems, matrix algebra, discrete probability, Markov chains, linear programming and game theory. Prereq: Two years of algebra and one year of geometry and half a year of trigonometry in high school and other satisfactory placement test scores on Math 100. This course should not be taken to remove an entrance requirement.

431 Statistics (1) For students not planning to major in the physical sciences, engineering, mathematics and computer science. Emphasizes discrete decision problems, matrix algebra, discrete probability, Markov chains, linear programming and game theory. Prereq: Two years of algebra and one year of geometry and half a year of trigonometry in high school and other satisfactory placement test scores on Math 100. This course should not be taken to remove an entrance requirement.

440 Structure of the Number System (3) Problem solving, sets and relations, numeration systems, integers, elementary number theory, rational numbers and number theory and the real number system. Prereq: Math 141 or 152. (or 241 or 247).

450 Matrix Computations (1) Introduction to matrix algebraic structure of the real number system, order properties, and completeness. Prereq: Math 141.

200 Matrix Compositions (1) Introduction to matrix compositions, determinants, eigenvalues and eigenvectors. Prereq: For students majoring in the Life Sciences. Does not satisfy the prerequisites for 130. Topics include algebraic structures, addition and subtraction of matrices, matrix multiplication, determinants, eigenvalues and eigenvectors. Prereq: Math 141 or 152. (or 241 or 247). Structure of the Number System (3) Problem solving, sets and relations, numeration systems, integers, elementary number theory, rational numbers and number theory and the real number system. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test scores on Math 100.

201 Probability, Statistics, and Euclidean Geometry (3) Probabilities in simple experiments, measures of central tendency and variation. Basic principles and three special topics with compass and straightedge, transformations, conics, and special topics. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test scores on Math 100.
110 Basic Military Science I (3) Formation and fun-
ctioning of the American military establishment in
relation to American society, customs and trad-
tions of the armed services, military physical fitness
training; enlisted topics dealing with current world af-
fairs, challenges facing the military in the future.
Adven-
ture training skills lab introduces mountaineering,
the military way of life and personal fitness.
Prereq:
United States citizen; freshmen or sophomore
Standing. Students with high standing require consent of
Instructor. Letter grade only. F, Sp.
130 Army Basic Training (1) Introduc-
tion to basic: leadership theory; principles and skills, with
emphasis on leadership in the military; tactical
skills, weapons training, individual military skills sub-
jecting. Skills taught include marksmanship, small unit
communications, and land
navigation. Leadership lab focuses on adventure train-
ing which includes rappelling, fortification, drill and
formation and optional field exercises. Prereq: United
States citizen; freshmen or sophomore
Standing. Students with high standing require consent of
Instructor. Letter grade only. 2 hours, lab grade only. F
130 Army Conditioning Program (1) Challenging in-
structional training directed at the healthy civilian
traditionally not interested in military fitness and
those who need a physical fitness design and a lead a
fitness program. May be repeated.
230 Basic Military Science I (4) Basic
training for the healthy civilian traditionally
not interested in military fitness and
those who need a physical fitness design and a lead a
fitness program. May be repeated.
100 Basic Military Science II (4) Continuation of
Basic Military Science I. Further development of
leadership, physical training, tactics, small unit
operations, marksmanship, small unit operations and
the Department of Military

MUSIC EDUCATION (707)
301 Choral Laboratory (1) Laboratory
should designed to offer successful training for student
conduc-
tors in the area of choral, vocal and instrumental music education. May be repeated.
Can be taken as elective credit by any student except those already registered for MUS

Courses of Instruction 191
190 Jazz Theory (2) Fundamentals of the jazz lan-
guage, including terminology, chord symbols, chord
blocks, and chord progressions, plus saxophone and
guitar theory. Preparatory Theory 100.

191-192 Jazz Improvisation I, II (2,2) Study and ap-
plication of principles of improvisation, including
rhythm, chord progression, chord-walrus patterns,
and functional melodic progression. Preparatory
Theory 100.

193 Jazz Rhythm (2) Emphasis on the 4/4 and 2/4
metric with an introduction to the blues. Preparatory
Theory 101.

194 Jazz History (3) Survey of music of the 20th
century with emphasis on the jazz genre. Prepara-
tory Theory 102.

195-196 Jazz Improvisation III, IV (2,2) Study and
application of principles of improvisation, including
rhythm, chord progression, chord-walrus patterns,

200-206 Band Ensemble (1,1) May be repeated for
credit. Requires payment of Ensemble fee. Prerequisites:
Music of the 19th and 20th centuries. Preparatory
Theory 100.

207-213 Chamber Music Ensemble (1,1) May be re-
peated for credit. Must be taken in sequence. Pre-
paratory Theory 100.

214-216 Symphony Orchestra (1,1) May be repeated
for credit. Must be taken in sequence. Preparatory
Theory 100.

217-219 Opera Ensemble (1,1) May be repeated
for credit. Must be taken in sequence. Preparatory
Theory 100.

220-223 Wind Ensemble (1,1) May be repeated
for credit. Must be taken in sequence. Preparatory
Theory 100.

224-226 Jazz Ensemble (1,1) May be repeated
for credit. Must be taken in sequence. Preparatory
Theory 100.

227-229 Jazz Workshop (1,1) May be repeated
for credit. Must be taken in sequence. Preparatory
Theory 100.

230-232 Jazz Lab (1,1) May be repeated for cred-
it. Must be taken in sequence. Preparatory Theory
100.

233-234 Jazz Lab (1,1) May be repeated for cred-
it. Must be taken in sequence. Preparatory Theory
100.

235-237 Jazz Lab (1,1) May be repeated for cred-
it. Must be taken in sequence. Preparatory Theory
100.

238-240 Jazz Lab (1,1) May be repeated for cred-
it. Must be taken in sequence. Preparatory Theory
100.

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400-402 Jazz Lab (1,1) May be repeated for cred-
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MUSIC KEYBOARD (712)

110-130 Class Piano I, II (1,1) Development of keyboard skills in reading, technique, rudiments, harmoniza-

tion, and transcription. Must be taken in sequence.

210-220 Class Piano III, IV (1,1) Continuation of 110-

130; 230-240 Class Piano V, VI (1,1) Further develop-
manship.

240 Church Service Playing I (1) Practical skills appli-
cable to the use of the organ in church services, includ-
ing improvisation, hymn playing, and accompanying. Prereq: 230 and organ proficiency at the 200 level.

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

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

340-350 Piano Pedagogy I, II (2,2) Reception and tech-
niques of teaching; development of student skills and approach to the piano as a teaching instrument. Prereq: Consent of instructor.

410-420 Intermediates I, II (1,1) Opportunities for pedago-
gy students to gain experience in teaching pre-college stu-
dents under the supervision of experienced instructors. Prereq: Consent of instructor.

450 Suzuki Piano Method I (2) Study of the psychology of teaching and effective communication skills with pre-

school children. Prereq: Consent of instructor.

480 Teaching Class Piano (2) An optional survey and evalua-
tion of teaching methods and methodology for college and university piano classes, with a focus on:

- The development of piano skills
- The development of music theory
- The development of music appreciation
- The development of music history

590-595 Advanced Piano I, II (2,2) Explanations of basic ma-

terials and methods related to the development of pro-
cedure of learning; specific programs based on past

experience and current trends in pedagogy. Prereq: 450.

596-597 The Organ and the Organ Literature I, II (3,3) Devel-
opment of the organ and organ literature from the Middle Ages to the 19th century. Prereq: Consent of instructor.

590-595 Piano Pedagogy I, II (2,2) Multilateral study of piano tech-
nique, music theory, and performance practice. Prereq: Consent of instructor.

590-595 Advanced Piano I, II (2,2) Further development of piano tech-
nique, music theory, and performance practice. Prereq: Consent of instructor.

590-595 Advanced Piano I, II (2,2) Further development of piano tech-
nique, music theory, and performance practice. Prereq: Consent of instructor.

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590-595 Advanced Piano I, II (2,2) Further development of piano tech-
nique, music theory, and performance practice. Prereq: Consent of instructor.
411 Nuclear Instrumentation (3) Core course: non-emergent, spring, and summer; requires a laboratory course. Provides the major (see PROGRESSION POLICIES AND PROCEDURES) in the chapter material. Prereq or Coreq: 401, 411, 431, 433, or RN status. F

104 Health and Culture: Experiences in selected cultures worldwide. Credit is given only for students who have taken 306, 316. F, Sp

473 Independent Study (1-3) Nursing or health-related topic not covered in other nursing courses. Prereq: Consent of instructor.

414 Community Mental Health Nursing (3) Nursing realities of clients and groups with psychiatric and/or long-term health problems. Community experiences provide opportunities for students to apply the nursing process to clients and groups in a variety of acute, extended care, and community settings. F, Sp

106 Trends in Professional Nursing (3) Core course: fall, spring, or summer; requires a laboratory course. Topics determined by faculty and student interest. F

493 Independent Study (1-3) Nutritional concepts; current issues in nutrition; nutritions needs in the elderly; health and well-being; methods of intervention, and nutritional assessment. Prereq: An appropriate nutrition course and/or PRJ 102. F, Sp

300 Fundamentals of Nutrition (3) Nutrition in normal and abnormal states. Data analysis of diets. Prereq: Chemistry 115 or equivalent. F
230 Interior Plantscaping (3) History and introduction, identification, adaptation, culture and landscape design uses of interior plants. Management of the interior environment. Identification, cultivation, and landscape design of latesummer and autumnal perennials, herbs, and ornamental grasses. Basic gardening practices and design elements using such plants. Prereq: 110 or consent of instructor. 2 hours and 1 lab.

231 Interior Horticulture (3) Identification, cultivation, and landscape design uses of Spring and summer perennials, herbs, and ornamental grasses. Basic gardening practices and design elements using such plants. Prereq: 110, 220 or consent of instructor. 1 hour and 2 labs.

232 Fall Herbaceous Ornamental Plants (3) Identification, cultivation, and landscape design uses of latefall, winter, and earlyspring herbaceous ornamental plants including annuals, perennials, bulbs, and flowering shrubs. Principles and practices designed to enhance and improve gardening experiences with an emphasis on landscape planning and design. Prereq: 110 or consent of instructor. 2 hours and 1 lab.

233 Plant Materials (2) Identification, classification and management practices of miscellaneous ornamental plants including water features. Prereq: 280. 3 hours.

234 Plant Materials (2) Identification, classification and management practices of miscellaneous ornamental plants including water features. Prereq: 280. 3 hours.

235 Fall and Winter Ornamental Plants (3) Identification, cultivation, and landscape design uses of fall and winter ornamental plants including annuals, perennials, bulbs, flowering shrubs, and roses. Principles and practices designed to enhance and improve gardening experiences with an emphasis on landscape planning and design. Prereq: 110 or consent of instructor. 2 hours and 1 lab.

236 Plant Propagation (3) Principles and methods of plant propagation including tissue culture and micropropagation. Prereq: 110; 2 hours and 1 lab.

237 Basic Landscape Design (3) Basic principles, methods, and techniques of landscape design, including the design process and the use of modern design software. Prereq: 280. 3 hours.

238 Landscape Planning (3) Principles and methods of landscape planning, including site analysis, landscape design, construction, and management of projects. Prereq: 280. 3 hours.

239 Plant Management (3) Principles and methods of landscape management, including maintenance of landscape plants and shrubs, propagation, and pest management. Prereq: 110. 2 hours and 1 lab.

240 Turfgrass Management (3) Principles and methods of turfgrass management, including identification, cultivation, and landscape design uses of turf. Prereq: 280. 2 hours and 1 lab.

241 Field Plant Identification (3) Identification, cultivation, and landscape design uses of ornamental plants including woody plants and vines and herbaceous ornamental plants during latefall, winter, and earlyspring. Prereq: 110, 220 or consent of instructor. 2 hours and 1 lab.

242 Field and Nursery in the Community (3) Field and nursery management practices of ornamental plants including woody plants and vines and herbaceous ornamental plants during latefall, winter, and earlyspring. Prereq: 110, 220 or consent of instructor. 2 hours and 1 lab.

243 Scientific Management in the Landscape Design Environment (3) Principles and methods of landscape design, planning, and contracting. Prereq: 280. 3 hours.

244 Architectural Landscape Design (3) Overview of architectural landscape design and analysis with emphasis on the design of public and private spaces. Prereq: 280. 3 hours.

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

430 Professional Practices in Landscape Construction and Management (3) Field and nursery management practices of ornamental plants including woody plants and vines and herbaceous ornamental plants during latefall, winter, and earlyspring. Prereq: 110, or consent of instructor. 3 hours and 1 lab.

431 Practical in Landscape Construction (3) Principles and methods of landscape construction, including site analysis, landscape design, and construction. Prereq: 280. 3 hours.

432 Project Management (3) Principles and methods of project management, including project planning, site analysis, and construction. Prereq: 280. 3 hours.

433 Current Problems in Ornamental Horticulture (1) Special topics in ornamental horticulture. Prereq: 280. 1 hour, or consent of instructor. 1 hour.

434 Horticultural Marketing (3) Principles and methods of horticultural marketing, including identification, cultivation, and landscape design uses of ornamental plants including woody plants and vines and herbaceous ornamental plants during latefall, winter, and earlyspring. Prereq: 110 or consent of instructor. 2 hours and 1 lab.

435 Refinement of graphic skills. Sketches, elevations, sections, perspectives, isometric projections, and perspectives. Lettering, shading, color rendering, and other visual presentation techniques. Prereq: 280. 3 hours.

436 Introduction to Science (2) Discovery, empirical methods and instrumentation in science and scientific basis of turfgrass culture; adaptation, culture, and landscape design uses of ornamental plants including woody plants and vines and herbaceous ornamental plants during latefall, winter, and earlyspring. Prereq: 110 or consent of instructor. 2 hours and 1 lab.

437 Landscape Technology (3) Principles and methods of landscape technology, including identification, cultivation, and landscape design uses of ornamental plants including woody plants and vines and herbaceous ornamental plants during latefall, winter, and earlyspring. Prereq: 110 or consent of instructor. 2 hours and 1 lab.

438 Grounds Maintenance (3) Identification and understanding of the principles of landscaping and the use of landscape materials, including plant materials, and design elements in landscaping. Prereq: 280. 3 hours.

439 Land Management and Design (3) Principles and methods of land management and design, including the use of landscape materials, including plant materials, and design elements in landscaping. Prereq: 280. 3 hours.

440 Advanced Turfgrass Management (3) Principles and methods of turfgrass management, including identification, cultivation, and landscape design uses of turf. Prereq: 280. 3 hours.

441 Seminar (1) Special topics in ornamental horticulture. Prereq: 110 or consent of instructor. 1 hour.
210 Introduction to Soil Science (3) Differences in soils: soil genesis, physical, chemical, and biological properties of soils; woodland of soil to land use and pollution; soil management relative to agriculture, forestry, recreation, and commercial uses. Prereq: 130 or 132 in 2 hours per week.

200 Introduction to Crop Science and World Crops (3) Agronomic principles of crop production and management. Prerequisites: 1 year of biological science and 1 semester of chemistry. 2 hours lecture and 1 lab. Sp.

218 Forestry (3) Principles and practice of forest harvesting, conservation of forest resources, and their economic value. Prerequisites: 1 year of biological science and 1 semester of chemistry. 2 hours lecture and 1 lab. Sp.

292 Soil Morphology (1) Intensive course involving describing, classifying, and interpreting soils in preparation for regional and national soil judging contests. Prerequisites: Consent of instructor. May be repeated. Max. 4 hours. 1 hour and 1 lab. F.

311 Soil Nutrition and Fertilizers (3) Principles of soil nutrition available to plants. Management of inorganic and organic fertilizer materials and the determination of their fate in the soil-plant system. Prerequisites: 1 year of biological science and 1 semester of chemistry. 2 hours lecture and 1 lab. Sp.

382 Agri. Chemistry (3) Agri. chemistry applied to the control of plant disease, herbicide and fertilizer use, and the analysis of soil and plant materials. Prerequisites: 1 year of biological science and 1 semester of chemistry. 2 hours lecture and 1 lab. Sp.

414 Soil, Land Use and the Environment (3) Use of soil as a component in ecosystem management and soil properties affecting land use. Soil as a resource in development planning including nonpoint sources of site selection for industry and home sites. Prerequisites: Consent of instructor and registration in an approved soil science program. 4 hours per week. F.

415 Soil Hydrology (3) Physical relationships among water, soil, and plant. Principles of hydrology and the influence of soil and topography on the movement of water through the soil. Prerequisites: Consent of instructor. 4 hours per week. F.

419 Soil Biology and Ecology in Agroecosystems (3) Principles of soil biology and ecology and the role of crop production in soil biological systems. Principles of agroecosystems. Prerequisites: Consent of instructor. 4 hours per week. F.

420 Agricultural Economics (3) Principles of economic and biophysical factors that control the supply and demand of agricultural resources. Prerequisites: Consent of instructor. 4 hours per week. F.

432 Bioclimatology (3) Solar energy budget; interactions between global, regional and local climates and biomes; systems of heat and moisture transfer, evapotranspiration, energy and mass exchanges; bioclimatological responses to changes in climate. Prerequisites: Consent of instructor. 3 hours lecture and 1 lab. F.

439 Crop Development and Management (3) Principles of population dynamics and of plant breeding. Prerequisites: 1 year of biological science and 1 semester of chemistry. 2 hours lecture and 1 lab. Sp.

446Housing (3) Nature and demand for housing in U.S. and abroad. U.S. experience. Private market processes and public influences. Impact of new technology and governmental policies on housing supply and demand. Prerequisites: Consent of instructor. 4 hours per week. F.

402 Survey of Planning (3) History of city development and of planning with special attention to the United States experience in urban and rural areas. The role of land-use planning in preventing waste and promoting community welfare. Prerequisites: Preprnt: 410 or 130 or 212 and consent of instructor. 3 hours lecture, 3 hours lab.

491 Foreign Study (3-15) A program of study involving travel abroad usually related to a student's major interest. Prerequisites: Consent of instructor and registration in an approved soil science program. 3-15 hours. F.

490 Senior Seminar (1-3) Topic of current interest. Maybe repeated with consent of department. Maximum 6 hours.
sources of regulatory authority, and constitutional pro-
tection of political and economic rights.

311 United States Constitutional Law: Civil Rights and Liberties (3) Current issues in civil rights and liberties, including affirmative action, equal protection, privacy, and the rights of the accused.

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

314 Budgetary Process and Financial Management (3) Fiscal planning, budgeting, and administrative implications.

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

320 State Government and Politics (3) Setting, institutions, and political processes in the state. Topics include economic growth, international relations, and intergovernmental relations.


324 Politics in Western Democracies (3) Political setting, structure and political processes in Western countries. Topics include economic growth, international relations, 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.

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

334 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, personnel, and financial management. Writing emphasis course.

336 Introduction to Contemporary Issues in American Public Policy (3) Policies and options for the future. Writing emphasis course.

340 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, personnel, and financial management. Writing emphasis course.

341 Politics in the United States Presidency. May be repeated. Maximum of 15 hours. E

342 Congress (3) Government, politics, and processes of the United States Congress.

345 Political Attitudes and Behavior (3) Systematic analysis of political behavior, with particular emphasis on political parties, interest groups, and political elites.

346 United States Constitutional Law: Sources of political authority, and constitutional protection of political and economic rights.

351 United States Constitutional Law: Civil Rights and Liberties (3) Current issues in civil rights and liberties, including affirmative action, equal protection, privacy, and the rights of the accused.

354 Budgetary Process and Financial Management (3) Fiscal planning, budgeting, and administrative implications.

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

361 Politics in Western Democracies (3) Political setting, structure and political processes in Western countries. Topics include economic growth, international relations, and intergovernmental relations.

362 United States Foreign Policy Process (3) Procedures whereby United States foreign policies are made.

366 United States Foreign Policy Process (3) Procedures whereby United States foreign policies are made.

367 International Relations (3) Relations among political and international organizations. Writing emphasis course.

368 Normative Issues in International Relations (3) An examination of the norms and value assumptions that underlie international relations. Writing emphasis course.

371 Ancient and Medieval Political Thought (3) May be repeated. Maximum of 15 hours. E

374 Administrative Thought (3) May be repeated. Maximum of 15 hours. E

375 Learning Skills and Study Systems (3) Approaches to improving student performance through effective study skills, organizational methods, and the effective use of time. Writing emphasis course.

384 Senior Honors Thesis and Seminar (3,3) Approaches to improving student performance through effective study skills, organizational methods, and the effective use of time. Writing emphasis course.

387 Professional Ethics (3) May be repeated. Maximum of 15 hours. E

390 International Honor Program (1-15) Career-related experiences in the helping professions. Primarily for students enrolled in educational settings. May be repeated. Maximum 15 hours. E

391 Foreign Study (1-15) May be repeated. Maximum of 15 hours. E

392 Off-Campus Study (1-15) May be repeated. Maximum 15 hours. E

393 Independent Study (1-15) May be repeated. Maximum of 15 hours. E

3949 Independent Study (1-15) May be repeated. Maximum of 15 hours. E

395 Independent Study (1-15) May be repeated. Maximum of 15 hours. E

396 Independent Study (1-15) May be repeated. Maximum of 15 hours. E

397 Independent Study (1-15) May be repeated. Maximum of 15 hours. E

398 Independent Study (1-15) May be repeated. Maximum of 15 hours. E

399 Independent Study (1-15) May be repeated. Maximum of 15 hours. E

401 Portuguese for Speakers of Another Romance Language (3) Intermediate level or the equivalent. (Same as Latin American Studies 309.)

402 Portuguese for Speakers of Another Romance Language (3) Intermediate level or the equivalent. (Same as Latin American Studies 309.)

403 Portuguese for Speakers of Another Romance Language (3) Intermediate level or the equivalent. (Same as Latin American Studies 309.)

404 Portuguese for Speakers of Another Romance Language (3) Intermediate level or the equivalent. (Same as Latin American Studies 309.)

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407 Portuguese for Speakers of Another Romance Language (3) Intermediate level or the equivalent. (Same as Latin American Studies 309.)

408 Portuguese for Speakers of Another Romance Language (3) Intermediate level or the equivalent. (Same as Latin American Studies 309.)

409 Portuguese for Speakers of Another Romance Language (3) Intermediate level or the equivalent. (Same as Latin American Studies 309.)

410 Special Topics in Political Science (3) May be repeated. Maximum of 15 hours. E

412 Congress (3) Government, politics, and processes of the United States Congress.

413 Congress (3) Government, politics, and processes of the United States Congress.

420 Political Attitudes and Behavior (3) Systematic analysis of political behavior, with particular emphasis on political parties, interest groups, and political elites.

421 Intermediate Portuguese (3) Advanced level in writing, listening, and speaking of Portuguese to prepare for upper division courses in the language.

430-431 Interdisciplinary Studies (825) Students who are enrolled in the interdisciplinary program may take one or more courses in the program. May be repeated. Maximum credit 15 hours. E

431-432 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

433-434 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

435-436 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

437-438 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

439-440 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

441-442 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

443-444 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

445-446 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

447-448 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

449-450 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

451-452 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

453-454 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

455-456 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

457-458 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

459-460 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

461-462 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

463-464 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

465-466 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

467-468 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

469-470 Topics in the Literature & Language of the Portuguese-speaking world (3) May be repeated. Maximum of 15 hours. E

471 International Political Economy (3) Economic and political analysis of international systems. Writing emphasis course.

472 Legal Writing (3) Legal writing and research. Writing emphasis course.

473 International Relations (3) Relations among political and international organizations. Writing emphasis course.

474 Legal Writing (3) Legal writing and research. Writing emphasis course.

475 Historical and Political Writing (3) Legal writing and research. Writing emphasis course.

476-477 Senior Honors Thesis and Seminar (3,3) Approaches to improving student performance through effective study skills, organizational methods, and the effective use of time. Writing emphasis course.

480 Junior Honors Thesis (3) May be repeated. Maximum of 15 hours. E

481-482 Senior Honors Thesis and Seminar (3,3) Approaches to improving student performance through effective study skills, organizational methods, and the effective use of time. Writing emphasis course.

483-484 Senior Honors Thesis and Seminar (3,3) Approaches to improving student performance through effective study skills, organizational methods, and the effective use of time. Writing emphasis course.
300 Child Psychology (3) The normal child from conception to age 18. Child development, and adolescence. Physical, social, emotional, and cognitive development. Prereq: 110 or equivalent, or consent of instructor. E

301 Introduction to Health, Lifestyle, and Behavior (3) A comprehensive study of the determinants of health and disease, with an emphasis on personal health and wellness. Prereq: 110 or equivalent, or consent of instructor. E

302 Introduction to Public Health (3) Aspects of public health including discussion of contemporary and controversial health issues. Prereq: 110 or equivalent. F, Sp

303 Psychological Analysis of Personality (3) A study of personality structure, development, and functioning. Prereq: 110 or equivalent. Prereq: 110 or equivalent. F

304 Psychology of Gender (3) Biological, psychographic, and social factors that influence gender roles and stereotypes for behavior and experience. Prereq: 110 or equivalent. Prereq: 110 or equivalent. F

310 Learning and Thinking (3) Survey of theory and findings of research concerning both human and nonhuman. Prereq: 110 or equivalent. Prereq: 110 or equivalent. F

311 History and Systems of Psychology (3) Historical and philosophical foundations of psychology. Development of psychological thought. Prereq: 110 or equivalent. F

320 Abnormal Psychology (3) Individual and group therapies. Psychological tests and their interpretation. Group and individual dynamics. Prereq: 110 or equivalent. E

325 Social Psychology (3) The study of interpersonal relationships in groups, social institutions, and large social systems. Prereq: 110 or equivalent. F

330 Abnormal Psychology (3) Individual and group therapies. Psychological tests and their interpretation. Group and individual dynamics. Prereq: 110 or equivalent. E

335 Experimental Psychology (3) Current research in the field of psychology. Prereq: 110 or equivalent. F

340 Cognitive Psychology: Language and Symbolic Systems (3) The study of language in the mind and the nature of thought. Prereq: 110 or equivalent. F

345 Theories of Learning (3) Classical and operant conditioning. Driving and reinforcing events and their application to learning and behavior modification. Prereq: 110 or equivalent. F

349 Statistics in Psychology (3) Descriptive statistics; hypothesis testing; correlation. Prerequisites: 100 and 110 or equivalent. F

350 Research Methods in Psychology (3) Fundamentals of research methodology. Emphasis on design and execution of research projects including research hypothesis, independent and dependent variables, reliability, validity, data analysis, and report writing. Prereq: 110 or equivalent. F

355 Professional Responsibility and Ethics (3) Principles, concepts, and perspectives related to health and illness, including stress, personality, division standing and consent of instructor. F

360 Social Psychology (3) Theories, methods, and findings in the field of social psychology. Prereq: 110 or equivalent. F

364 History and Systems of Psychology (3) Historical and philosophical foundations of psychology. Development of psychological thought. Prereq: 110 or equivalent. F

369 Laboratory in Physiological Psychology (3) Laboratory studies of nervous system and physiological correlates of behavior. Coreq: 461. F

370 Public Relations Cases (3) Oral and written analysis of current cases and classic cases studied in public relations. Analysis and critical evaluation of public relations principles. Methods of communicating and persuasion. Prereq: 385. F, Sp

375 Adolescent Development (3) Theoretical perspectives and empirical research findings pertinent to adolescent development. Prereq: 300. Sp

380 Cognitive Psychology: Language and Symbolic Systems (3) The study of language in the mind and the nature of thought. Prereq: 110 or equivalent. F

385 Statistics in Psychology (3) Descriptive statistics; hypothesis testing; correlation. Prerequisites: 100 and 110 or equivalent. F

390 Practicum in Recreation and Tourism Management (2-3) Supervised practice in approved agencies under the supervision of a faculty member. Hours of contact must be approved by advisor. Prereq: Permission of instructor. F, Sp

391 Foreign Study (1-15) Advance approval of hours and topics by advisor required for registration. May be repeated for a maximum of 15 hours credit.

400 Controlling Disease and the Prevention of Disease (3) Modern concepts of diseases revolve around epidemics and the control of disease. Prereq: 110 or equivalent. Prereq: 110 or equivalent. F

403 Introductory to Public Health (3) An overview of public health including discussion of contemporary and controversial health issues. Prereq: 110 or equivalent. F

404 Psychology of Gender (3) Biological, psychographic, and social factors that influence gender roles and stereotypes for behavior and experience. Prereq: 110 or equivalent. Prereq: 110 or equivalent. F

405 Comparative Animal Behavior (3) Survey of behavior and animal and plant responses to stimuli. Prereq: 385 or equivalent. F


407 Comparative Animal Behavior (3) Survey of behavior and animal and plant responses to stimuli. Prereq: 385 or equivalent. F

408 Advanced Measurement and Testing (3) Emphasis on evaluative techniques of psychological tests and their applications. Prereq: 445. F

409 Group Facilitation (3) Study of theory and techniques through supervised experience in small groups. Prereq: 310 or equivalent. Prereq: 310 or equivalent. F, Sp

411 Sensory Processes and Perception (3) Physiological and psychophysical theories of perception. Emphasis on research methods. Prereq: 385. F

412 Opinion Writing (3) (Same as Journalism 412.) Effective writing for various media to achieve organizational goals. Overview of governing communication and persuasion principles, strategies, and managed techniques in a lab setting. Prereq: 270 or equivalent. F, Sp

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

415 Field Experience (1-2) Approved internships or other supervised practice in journalism and public relations. May be repeated for a maximum of 4 credit hours. Prereq: Senior standing and consent of instructor. S/NC only.
493 Independent Study (1-15)

Russian and East European Studies 451-452. Study of language, literarystyle, and literarycriticism.

Sociology 425. Introduction to Descriptive Linguistics (3) (Same as Russian and East European Studies 425).


371 Martyrs, Mobs, and Madmen in Russian Culture: the Earliest Days to the Present. Writing-emphasis course.

988-1861 (3) Explores various aspects of Russian music, art, and literature. Emphasizes violent cultural clashes.

222 Heaven or Hell: Utopias and Dystopias in 20th Century Russian Literature (3) Texts in English translation. No foreign language credit. Writing-emphasis course.

201-202 Elementary Russian (4,4) Must be taken in sequence. Restricted to students in the Language and Sciences.

202 Intermediate Russian (4,4) Must be taken in sequence. Requires written research report. Prereq: 200 or consent of instructor. (Same as Russian and East European Studies 202.)

311 Russian Composition and Conversation (3) Prerequisites: 201-202. Writing-emphasis course. Maximum 12 hours.

451-452 Foreign Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 9 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

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

494 Directed Independent Study (1-15) Individual identification and study in any field of sociology.

496 Research Methods in Sociology (3) Critical prevention and intervention in sports injury and control; philosophy of sports safety; human environmental factors and interpersonal relationship in sports injury and control; risk-taking and decision making strategies; and contributions of applied medicine to safety. 3 hours and 2 lectures. Syllabus.

497 Special Topics (1-15) Study in selected disciplinary or inter-disciplinary areas of safety. May be repeated. Maximum 12 hours.

505 Introduction to Social Work (3) Emergence of the social work profession; professional mission; theory; principles; methods; settings; client groups; helping services; current social practice methods. Objective: to assist to consider their ability for careers in social work.

506 Social Welfare (3) Development structure and function of the social welfare system. Emphasis on welfare policies and programs.


120 General Sociology (3) Major concepts and theoretical approaches of sociology with emphasis on social stratification, socialization, and social integration. Emphasis on major concepts and problems in sociology.

201 Sport in American Society (3) (Same as Cultural Studies 201.)

210 American Society (3) Institutional organization of contemporary capitalism with an emphasis on historically and contemporary expression of a major social values. Writing-emphasis course.

301 Family (3) Theoretical approaches to family in sociology and their applications in family studies.

350 Collective Behavior and Social Movements (3) Collective phenomena leading to social change. Historical and contemporary analysis of social problems and social movements.

360 Environment and Resources (3) Relationship between scarcity of natural resources and changes in lifestyles, social organization, and social control.

370 Race and Ethnicity (3) Social sources of racial and ethnic discrimination and conflict. Emphasis on cross-cultural communication.

371 Family (3) Theoretical frameworks and methodological approaches to family in sociology and their applications in family studies. 

380 Field Practice in Social Work I (3) Eight-hour-per-week, supervised field experience with practicum agencies, institutions, and communities. Coreq: 381, 382.

381 Social Work Practice I (3) Supervision and practice experience with practicum agencies, institutions, and communities. Coreq: 380, 382.

382 Social Work Practice II (3) Supervision and practice experience with practicum agencies, institutions, and communities. Coreq: 380, 382.

415 Research Methods in Sociology (3) Emphasis on their historical development and their implications for the field. Students are required to formulate a research proposal and write a term paper. Coreq: 320.

416 Social Welfare Policy and Services (3) Policy formulation, processes, polity and systems in social welfare. Prereq: 380 or consent of instructor.


420 Interpersonal Communication Processes (3) Emphasis on the interplay of language, culture, and context in the construction and negotiation of meaning. Prereq: 200 or consent of instructor.

421 Introduction to Social Work (3) Emergence of the social work profession; professional mission; theory; principles; methods; settings; client groups; helping services; current social practice methods. Objective: to assist to consider their ability for careers in social work.

422 Social Welfare (3) Development structure and function of the social welfare system. Emphasis on welfare policies and programs.

423 Race and Ethnicity (3) Social sources of racial and ethnic discrimination and conflict. Emphasis on cross-cultural communication.


425 Research Methods in Sociology (3) Emphasis on their historical development and their implications for the field. Students are required to formulate a research proposal and write a term paper. Coreq: 320.

426 Social Welfare Policy and Services (3) Policy formulation, processes, polity and systems in social welfare. Prereq: 380 or consent of instructor.

427 Sociology of Religion (3) Interrelationship of society, religion, values, and lifestyle preferences and choice. Emphasis on the theoretical framework and emerging discipline.


430 Introduction to Social Work (3) Emergence of the social work profession; professional mission; theory; principles; methods; settings; client groups; helping services; current social practice methods. Objective: to assist to consider their ability for careers in social work.

431 Sociological Research (3) Selected set of contemporary issues and problems in sociological theory with an emphasis on the methodological approaches to the topics addressed. Prereq: 200 or consent of instructor.

432 Social Research (3) Selected set of contemporary issues and problems in sociological theory with an emphasis on the methodological approaches to the topics addressed. Prereq: 200 or consent of instructor.

433 Sociological Analysis of the Family (3) Emphasis on the family as a social institution.

434 Race and Ethnicity (3) Social sources of racial and ethnic discrimination and conflict. Emphasis on cross-cultural communication.

435 Collective Behavior and Social Movements (3) Collective phenomena leading to social change. Historical and contemporary analysis of social problems and social movements.

436 Sociology of Occupations (3) Occupations and professions as interest groupings in work settings and the social market.

437 Criminology (3) Systematic inquiry into criminal behavior, the offender, and the criminal justice system. Prereq: 200.


441 Advanced Topics in Social Work (3) Explores various aspects of Russian literature, culture, and science. Parallel with English translation.

442 Introduction to Comparative and Historical Linguistics (3) Garinian, German, French, Italian, Russian, Spanish, and Linguistics.

443 Introduction to Comparative and Historical Linguis...
SPANISH (924)

111-112 Elementary Spanish (3) Language laboratory is required. Must be taken in sequence. Not available to students who have taken Spanish 101.

165 Intermediate Spanish Translation (3) This course is designed to prepare students for enrollment in Spanish 211. Prerequisite: Spanish placement score of the level required for Spanish 211. This will not fulfill the 4-hour minimum requirement of the College of Arts and Sciences intermediate level language requirement. Since this is a review of elementary Spanish, students who receive credit in this course may not also receive credit for any other 100-level Spanish course and therefore will forfeit the 4-hour minimum and need another hour of advanced level Spanish. For writing credit only. F, Sp.

199 Spanish Language and World Business (3) The course will examine the importance of foreign trade at the local, national, and international level. An interdisciplinary faculty of the College of Business and Arts and Sciences will provide an overview of the role of language in global business. Preparation is required in the Spanish Language and World Business course. See the Director for further information. F, Sp.

212-213 Intermediate Spanish (3) Students who have completed the 13-hour minimum required for Spanish 211 may be granted credit for when the course is completed with a B or better. F, Sp.

291 Spanish Literature in English Translation (3) From the Golden Age, Don Quixote, the picaresque novel, and St. John of the Cross, to the modern, Unamuno, Lorca, Ortega, and Casanova. Not available for foreign language credit. F, Sp.

300 Transitional Grammar Review and Reading (3) For students who have completed the intermediate level sequence and who need additional grammar review, vocabulary acquisition, and key areas of grammar. Spanish, Spanish 212 or equivalent may receive credit for Spanish placement score. F, Sp.

310 Students for Spanish-American Language (3) An accelerated course for beginning students of Spanish who have a strong background in grammar, who need rapid vocabulary building, vocabulary acquisition, and key areas of grammar. Spanish, Spanish 212 or equivalent may receive credit for Spanish placement score. F, Sp.

311 Advanced Composition (3) Develops writing skills through compositions on assigned topics. Review of major themes and grammatical structures. Spanish, Spanish 212 or equivalent must be taken with this course. F, Sp.

312 Advanced Conversation (3) Conversational Spanish with a focus on written and oral applications. Spanish, Spanish 212 or permission of instructor. F, Sp.


391 Cultural and Institutional Changes in Latin America (3) Values, beliefs, societal and religious changes of the last century. Spanish, Spanish 212 or equivalent. F, Sp.

422 Advanced Grammar (3) Grammar and language pedagogy. Topics vary. May be repeated with different emphasis. F, Sp.

429 Romance Linguistics (3) (Same as French 429 and Linguistics 429.)

452 Hispanic Poetry (3) Emphasis on the major poets of each period, either Spanish or Spanish-American. May be repeated with different emphasis. F, Sp.

455 Society and Law (3) How laws and legal processes are affected by social change, the social impact of legal sanctions, relations between law and social justice. F, Sp.

442 Comparative Poverty and Development (3) A critical examination of poverty and inequality in developing areas of the world, along with a review of major sociological theories which attempt to explain differences in patterns of development. Writing emphasis course. (Same as African-American Studies 442.)


451 Criminal Justice (3) A critical assessment of the police and other criminal justice agencies. An examination of the police, with most of the emphasis on the criminal courts and institutions and programs such as the prison, probation, and parole. Analysis of their impact on social inequality and opportunity. F, Sp.

461 Special Topics (3) Focus on some aspect of a field of study. Consent of department and instructor required. May be repeated. F, Sp.


471 Latin American Civilization (3) Latin America's values systems, behavioral patterns, religion, social structure, the role of the family, the church, education, and politics. F.

475-575 courses of Instruction
A brief introduction to the study of conversation in the 20th century is followed by an overview of the major theoretical perspectives. An emphasis is placed on the role of conversation in social interaction and in the formation of social identity. Topics include: the relationship between language and social reality; the role of conversation in social power and control; the relationship between conversation and cultural identity; and the role of conversation in the construction of identity. The course is offered in the fall and spring quarters.

The course is taught by Dr. Jane Smith, a noted expert in the field of conversation analysis. Dr. Smith has published extensively on the relationship between conversation and social identity, and has conducted numerous studies on the role of conversation in social interaction. The course is open to all students, including those without a background in linguistics or communication studies.

For more information, please contact Dr. Smith at jsmith@edinburgh.university or by phone at 555-1234.
of residuals. Logistic regression and its applications. Correlation, multiple regression, polynomial regression, techniques. Prerequisite: 201 or 251. E

409 Stage Make-Up (3) Study and problems in makeup design and application with emphasis on character analysis. Prerequisite: 100. F

410 Introduction to Theatre (3) Understanding theatre: thought, philosophy, aesthetics, and production practice. Prerequisites: 100 or consent of instructor. Maybe repeated. Maximum 9 hours.

411 Theatre Projects in International Theatre (3-5) Study and practice of international theatre including both dance and vocal work. Prerequisite: 320 or consent of instructor. Maybe repeated. Maximum 9 hours.

412 Theatre Projects (2)导行-direction and design or dramaturgy. Prerequisite: 320 or consent of instructor. Maybe repeated. Maximum 6 hours.

413 Independent Study (2-6) Faculty-directed reading and investigation of specified topic in probability or statistics culminating in a written report. Prerequisite: Two courses in statistics and permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. May be repeated. Maximum 6 hours.

414 Internship (1-6) Supervised off-campus experience in the application of statistical principles and methods in business, industry, or government, culminating in a written and oral report. Prerequisite: Permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. May be repeated. Maximum 6 hours.

415 Probability and Statistics for Scientists and Engineers. Prerequisite: 201 or 251. E

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

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

420 Introduction to Statistics (3) Data collection; descriptive statistics. Concepts of probability and probability distributions. Binomial and normal distributions. Estimation of mean, confidence intervals, hypothesis tests for single mean and proportion. Simple regression and correlation. Contingency tables. Prerequisite: Course appropriate for a general audience. Prerequisite: Mathematics 125 or 141. E

421-200 Acting (5) 320-200: Acting techniques. 201-200: Studio acting techniques. Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.

422 Advanced Acting (3) Characterization and scene actions of individual actors. Prerequisite: 220-221 and consent of instructor. Maybe repeated. Maximum 6 hours.

423 Period Movement and Dance (2) Movement styles and practices of the principal varieties of the English Language in North America and Great Britain. Prerequisite: 320 or equivalent. Maybe repeated. Maximum 6 hours.

424 Theatre Dance 11 (2) Advanced dance technique in realistic plays. Prerequisite: 220-221 and consent of instructor. Maybe repeated. Maximum 6 hours.

425 Voice and Diction (3) Voice production; attention to text, thought, philosophy, aesthetics, and production practice. Production requirement. E

426 Voice and Diction (3) Voice production; attention to text, thought, philosophy, aesthetics, and production practice. Production requirement. E

427 Theatre History I (3) History and literature of theatre. Emphasis on the history of major trends and movements from Antiquity to the present. Prerequisite: 411. E

428 Theatre History II (3) History and literature of theatre. Continued study of major trends and movements from Antiquity to the present. Prerequisite: 427. E

429 Theatre History III (3) History and literature of theatre. Continued study of major trends and movements from Antiquity to the present. Prerequisite: 428. E

430 Textile Science (970) Study of textile fabrics for apparel and interior furnishings. Emphasis on natural fibers, fabrics, brushes and construction methods. Prerequisites: Consent of advisor and appropriate courses.

431 Data Analysis and Presentation (3) Sampling, descriptive and inferential methods of statistical analysis. Emphasis on computer applications. Prerequisites: Consent of instructor. May be repeated. Maximum 6 hours.

432 Stage and Screen Design (4) Materials, design methods, and design problems. Prerequisite: 340 or consent of instructor. Maybe repeated. Maximum 6 hours.

433 Scene Flight (2) Study of scenic flight for the theatre. Emphasis on the construction of flying scenery. Prerequisites: 350 and 450. E

434 Scenery Painting (2) Introduction to materials, techniques, and practice of stage painting for theatrical productions. Prerequisites: 250 and 340. E

435 Advanced Acting (3) Characterization and scene actions in realistic plays. Prerequisites: 250-251 and consent of instructor. May be repeated. Maximum 6 hours.
required of all graduating students in The University Honors Program. May be repeated. Maximum 6 hours.

458 Senior Honors Seminar (1) Development and research in independent study. Open to any undergraduate honors student. Prerequisite: must be approved in advance. See the Director of University Honors for further information.

468 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.

491 Honors: Independent Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

493 Honors: Independent Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

462 Advanced Lighting Design (3) Advanced techniques in computer assisted design for theatre. Prerequisite: Computer Drawing, Graphics, and Lighting (D and G) and consent of instructor. May be repeated. Maximum 9 hours.

470-471 Playwriting (3,3) Advanced instruction in the writing of plays. Prerequisite: Consent of instructor.

493 Independent Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

491 Honors: Foreign Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

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