ACCOUNTING (009)
201 Principles of Financial Accounting (3) Introduction to financial accounting theory and practice with emphasis on preparation and reporting of financial statements. Prerequisite to all other courses in accounting. PreReq: Mathematics 110 or 121. E
202 Principles of Managerial Accounting (3) Introduction to managerial and cost accounting concepts with emphasis on use of accounting data by managers for short-term decision-making activities, and decision making. Prereq: 201. E
341 Accounting Information Systems (3) Development and use of accounting information systems for different business organizations, and application of specialized information on organizations for internal and external decision making. Prereq: 321. Management 303. Junior or senior standing. Major exam maybe given during the last class meetings. F, Sp
400 Special Topics (3) Critical consideration of selected current topics. May be selected from managerial, financial, or specialized area under the supervision of a faculty member. Credit.
411 Auditing (3) Roles of auditing in society, operational auditing, professional auditing standards, auditor’s legal responsibilities, audit evidence and reporting, role of internal control and statistical sampling in auditing, audit services in specific transaction cycles. Prereq: 321 with a grade of C or better. 314. F, Sp
414 Advanced Accounting (3) Issues and developments in advanced theory and problem areas including financial accounting theory, partnership accounting, business combinations, consolidated financial statements, analysis of financial transactions, and specific transaction cycles. Prereq: 312 with a C or better. F, Sp
415 Federal Income Taxation (3) Fundamentals of gross income, deductions, credits, and tax determinations. Introduction to taxation of corporations and partnerships. Prereq: 311 with a C or better, or consent of instructor. E
ADVERTISING (012)
200 Advertising Principles (3) Survey of the role of advertising in American business and society. Relationship between advertising and public policy. The components of advertising: research, media, creative, and management.
240 Advertising Research Methods (3) Secondary data and primary research techniques for advertising decisions. Prereq: 290 with a grade of C or better and 340 with a grade of C or better.
250 Advertising Creative Strategy (3) Basic concepts of creative strategy with intensive practice in developing creative copy and designing advertising layouts and copy. Prereq: 290 with a grade of C or better.
260 Advertising Media Strategy (3) Assessment of markets, vehicle audiences and market research techniques for advertising planning. Instruction in media planning, buying and evaluation. Prereq: 290 with a grade of C or better.
280 Advertising Professional Seminar (3) Exploration of career choices in media communications. Practice in written and oral presentations. Prereq: 290 with a grade of C or better.
340 Advertising Creative Strategy (3) Basic concepts of creative strategy with intensive practice in developing creative copy and designing advertising layouts and copy. Prereq: 290 with a grade of C or better.
350 Advertising Campaigning (3) Group-based development, execution and evaluation of an advertising campaign for a regional or national client. Prereq: 414 with a grade of C or better.
360 Advertising Media Strategy (3) Case-study approach to advertising decisions. Data analysis and interpretation, generating alternative strategies, and written presentation of recommendations. Prereq: 290 and 350 with a grade of C or better. Open to marketing seniors in the College of Business Administration with consent of Head of Department of Advertising.
470 Advertising Campaigns (3) Group-based development, execution and evaluation of an advertising campaign for a regional or national client. Prereq: 414 with a grade of C or better.
490 Special Topics (3) Critical consideration of selected current topics. May be selected from managerial, financial, or specialized area under the supervision of a faculty member. Credit.
492 Advertising Practicum (1) Experience in a functional area of advertising including research, media, creative, and management.
495 Independent Study (1-3) Individual study in a specialized area under the supervision of a faculty member. Prereq: Consent of instructor.
AFRO-AMERICAN STUDIES (022)
201 Introduction to Afro-American Studies (3) Multidisciplinary approach to the Afro-American experience through the Civil War period which examines such issues as traditional African societies, the institution of slavery, the development of Afro-American culture, the beginning of Afro-American protest tradition, and the Civil War and Reconstruction.
202 Introduction to Afro-American Studies (3) Multidisciplinary approach to the Afro-American experience from the Civil War through the Civil Rights era which focuses on such topics as Afro-American rural and urban society, the Afro-American church and education, and Afro-American intellectual and protest movements.
210 Introduction to Afro-American Music (3) Same as Music History 310.
314 Peoples and Cultures of Africa (3) Same as Anthropology 314.
320 Minority Group Politics in the United States (3) Same as Political Science 322.
340 Race and Ethnicity (3) Same as Sociology 343.
350 History of Jazz (3) Same as Music History 350.
360 Afro-American Religion in the United States (3) Same as Religious Studies 360.
373 Afro-American Religion in the United States (3) Same as Religious Studies 373.
380 Afro-American Anthropology (3) Same as Anthropology 315.
390 Afro-American History (3) Same as History 390.
450 Afro-American Music (3) Same as Music History 350.
470 Afro-American Theatre (3) Same as Theatre 470.
480 Afro-American Philosophy (3) Same as Philosophy 480.
492 Afro-American Practicum (1) Experience in a functional area of Afro-American studies. Prereq: 414 with a grade of C or better.
495 Independent Study (1-3) Individual study in a specialized area under the supervision of a faculty member. Prereq: Consent of instructor.
421 Comparative Studies in African and Afro-American Societies (3) Comparative studies of African and Afro-American societies in such areas as education, religion, and social organization. Includes the respective views of Afro-Americans and Africans of each other and the concept of Pan-Africanism. Writing emphasis of at least one in-class examination and 3000 words of writing outside the classroom. (Same as History 421.)

429 History and Philosophy of Afro-American Educa-
tion (3) Focuses on American education and ethics of educators and the major philosophical issues concerning Black American education. Writing emphasis of at least one in-class examination and 3000 words of writing outside the classroom.

421 Research Seminar in Afro-American Studies (3) Focuses in characteristically Afro-American manner on development of research skills. Students are required to implement a research project of their choice in the field of Afro-American Studies. Writing emphasis of at least one in-class examination and 3000 words of writing outside the classroom.


451 Student Teaching in Agricultural Education (3-6) Full-time teaching practice in an approved high school. Application made to new member vocational education teaching. Satisfactory/No Credit grading only. Prereq. Admission to Teacher Education and 346 and 346-C. Coreq. 435 or 436; 436 or 439. Grp.

452 Agricultural and Extension Education Internship (3-8) Supervised work experience in approved Extension offices, agricultural businesses, or agricultural institution. Requires prior 400 course for a specified time (Pr. 411 and consent of instructor). Grp.

461 Independent Study (1) Individual study of a special project or problem in Agriculture and Extension Education. Must be selected in consultation with the instructor. Prereq. Consent of instructor. May be repeated for credit. Maximum 6 hours.

Agricultural Economics (047)

110 Orientation to Agricultural Economics and Business (1) Primarily for Agricultural Economics majors. An introduction to the research methodology and decision processes used by agricultural economists in the field. Prereq.: None. Grp.


112 Agricultural Marketing (3) Nature of marketing in the agriculture field, including economic aspects of acquisition and management of capital, labor, and technology. Prereq.: Economics 201 and Junior standing. Grp.

120 Introduction to Agricultural Economics (3) Applications of economic principles and concepts to production, marketing, and finance of agricultural enterprises. Prereq.: Economics 201 or consent of instructor. F, Sp.

121 Agricultural Finance (3) Macroeconomics, financial services, sources of agricultural credit, and financial intermediaries. Prereq.: Economics 201 and Junior standing. Grp.

122 Marketing of Agricultural Products (3) Survey of the principles and art of the marketing of agricultural products. Special emphasis on price discovery, securing operating capital, and practical applications infarm planning. Prereq.: Economics 201 and Junior standing. Grp.


211 Natural Resource Economics (3) Nature of natural resources, economics of public land, and the management of natural resources in public and private sectors. Prereq.: Economics 201 or consent of instructor. Grp.

251 Industrial Organization (3) Industrial organization. Differentiation of industries, barriers to entry, economies of scale, and operating characteristicsof internal combustion engines. Prereq.: Economics 201. F.

252 Industrial Organization (3) Industrial organization. Differentiation of industries, barriers to entry, economies of scale, and operating characteristicsof internal combustion engines. Prereq.: Economics 201. F.

260 Agricultural and Natural Resource Policy (3) Analysis of agricultural and environmental policy, and political economy of agricultural and environmental issues. Prereq.: Economics 201. F.

261 Agricultural and Environment Policy (3) Analysis of agricultural and environmental policy, and political economy of agricultural and environmental issues. Prereq.: Economics 201. F.


280 Applied Econometrics (3) Econometric methods and applications in agricultural economics. Prereq.: Consent of instructor. Grp.

290 Independent Study (1-6) Independent study of a special problem or project in the field of Agricultural Economics and Extension Education. Must be selected in consultation with the instructor. Prereq.: Consent of instructor. May be repeated for credit. Maximum 6 hours.

Agricultural Engineering (051)

200 Specialty Areas of Agricultural Engineering (1) Primarily for Agricultural Engineering and Agriculture majors. Specialization for written and oral presentation. F.

201 Field Experience in Agricultural Engineering (1) Primarily for Agricultural Engineering and Agriculture majors. May be repeated. Maximum 6 hours.

210 Fundamentals of Agricultural Engineering (3) Machinaiy design, principles of operation, and performance of major agricultural machines. Prereq.: Consent of instructor. Grp.

220 Agricultural Engineering Fundamentals (3) Principles and applications of machine design, power transmission systems; functional operating characteristicsof internal combustion engines. Prereq.: Consent of instructor. Grp.


250 Soil and Water Conservation (2) Hydrologic, agronomic, and engineering principles applied to resource use; externalities in natural resource use; factors influencing environment quality; alternative public policy tools for influencing natural resource users; and environmental policy instruments. Prereq.: Consent of instructor. Grp.


270 Seminar in Agricultural Engineering and Business Affairs (1-3) Topics in agricultural economics and business majors in senior year. Analysis of current issues, objectives, and applications, and performance assessment. Prereq.: Consent of instructor. Grp.

280 Agricultural and Natural Resource Policy (3) Analysis of agricultural and environmental policy, and political economy of agricultural and environmental issues. Prereq.: Economics 201. F.

290 Independent Study (1-6) Independent study of a special problem or project in the field of Agricultural Economics and Extension Education. Must be selected in consultation with the instructor. Prereq.: Consent of instructor. May be repeated for credit. Maximum 6 hours.

Agricultural Engineering (056)

200 Specialty Areas of Agricultural Engineering (1) Primarily for Agricultural Engineering and Agriculture majors. Specialization for written and oral presentation. F.

210 Fundamentals of Agricultural Engineering (3) Machinaiy design, principles of operation, and performance of major agricultural machines. Prereq.: Consent of instructor. Grp.

220 Agricultural Engineering Fundamentals (3) Principles and applications of machine design, power transmission systems; functional operating characteristicsof internal combustion engines. Prereq.: Consent of instructor. Grp.


250 Soil and Water Conservation (2) Hydrologic, agronomic, and engineering principles applied to resource use; externalities in natural resource use; factors influencing environment quality; alternative public policy tools for influencing natural resource users; and environmental policy instruments. Prereq.: Consent of instructor. Grp.


270 Seminar in Agricultural Engineering and Business Affairs (1-3) Topics in agricultural economics and business majors in senior year. Analysis of current issues, objectives, and applications, and performance assessment. Prereq.: Consent of instructor. Grp.

280 Agricultural and Natural Resource Policy (3) Analysis of agricultural and environmental policy, and political economy of agricultural and environmental issues. Prereq.: Economics 201. F.

290 Independent Study (1-6) Independent study of a special problem or project in the field of Agricultural Economics and Extension Education. Must be selected in consultation with the instructor. Prereq.: Consent of instructor. May be repeated for credit. Maximum 6 hours.

Agricultural Engineering (056)

200 Specialty Areas of Agricultural Engineering (1) Primarily for Agricultural Engineering and Agriculture majors. Specialization for written and oral presentation. F.

210 Fundamentals of Agricultural Engineering (3) Machinaiy design, principles of operation, and performance of major agricultural machines. Prereq.: Consent of instructor. Grp.

220 Agricultural Engineering Fundamentals (3) Principles and applications of machine design, power transmission systems; functional operating characteristicsof internal combustion engines. Prereq.: Consent of instructor. Grp.


250 Soil and Water Conservation (2) Hydrologic, agronomic, and engineering principles applied to resource use; externalities in natural resource use; factors influencing environment quality; alternative public policy tools for influencing natural resource users; and environmental policy instruments. Prereq.: Consent of instructor. Grp.


270 Seminar in Agricultural Engineering and Business Affairs (1-3) Topics in agricultural economics and business majors in senior year. Analysis of current issues, objectives, and applications, and performance assessment. Prereq.: Consent of instructor. Grp.

280 Agricultural and Natural Resource Policy (3) Analysis of agricultural and environmental policy, and political economy of agricultural and environmental issues. Prereq.: Economics 201. F.

290 Independent Study (1-6) Independent study of a special problem or project in the field of Agricultural Economics and Extension Education. Must be selected in consultation with the instructor. Prereq.: Consent of instructor. May be repeated for credit. Maximum 6 hours.
AGRICULTURAL ENGINEERING TECHNOLOGY (AGT)

201-202 Introduction to Agricultural Engineering (1,1) Historical background and the role of agricultural engineers in society, with emphasis on the safety, health, and environment aspects of agricultural production.

203-204 Fundamentals of Welding Processes (2,2) Welding processes and equipment, welding techniques, and metallography. Prerequisites: Mechatronics 101 or consent of instructor.

205-206 Agricultural Systems and Resources Management (2,2) Theoretical and practical aspects of crop production systems, including crop selection, production practices, and environmental considerations.

207-208 Machine Design (2,2) Fundamentals of static and dynamic analysis of mechanical systems, including stress analysis, fatigue, and wear.

209-210 Fluid Mechanics (2,2) Theoretical and practical aspects of fluid dynamics, including fluid flow, heat transfer, and mass transfer.

211-212 Analytical Methods in Agricultural Engineering (2,2) Application of numerical methods to solve engineering problems in agriculture, including finite element analysis, and optimization techniques.

213-214 Environmental Engineering (2,2) Theoretical and practical aspects of environmental engineering, including water and waste management, air pollution, and environmental impact assessment.

215-216 Soil and Water Conservation Engineering (2,2) Theoretical and practical aspects of soil and water conservation, including erosion control, sedimentation, and nutrient cycling.

217-218 Agricultural Policy and Economics (2,2) Theoretical and practical aspects of agricultural policy and economics, including market analysis, policy formulation, and economic evaluation of agricultural production systems.

219-220 Agricultural Marketing (2,2) Theoretical and practical aspects of agricultural marketing, including market research, pricing strategies, and distribution channels.

221-222 Agricultural Entrepreneurship (2,2) Theoretical and practical aspects of starting and managing a small agricultural enterprise, including market analysis, risk assessment, and business planning.

223-224 Agricultural Extension (2,2) Theoretical and practical aspects of agricultural extension, including communication, education, and community involvement.

225-226 Agricultural Safety and Health (2,2) Theoretical and practical aspects of agricultural safety and health, including occupational health and safety regulations, and risk assessment.

227-228 Agricultural Engineering Management (2,2) Theoretical and practical aspects of agricultural engineering management, including project management, quality control, and professional development.
120 American Cultures (3) Anthropology in the study of our own society, including such topics as family, social classes, power structures, etc. Writing emphasis: stress on one in-class essay examination and 3000 words of writing outside the classroom.

360 North American Prehistory (3) Prehistoric cultures of North America from initial occupation of the continent to European contact. Writing emphasis: stress on one in-class essay examination and 3000 words of writing outside the classroom.

361 Historical Archaeology (3) Historical archaeology of North America, including the American Indian cultures in the United States from 16th to 20th centuries.

453 Principles of Archaeology (3) Research strategies used in developing and testing hypotheses, identifying and interpreting context, and evaluating explanations of cultural change. Prerequisite: 121 or consent of instructor.

250 Advanced Religious Studies 373 and Advanced Studies 373.

480 Reweighing in Anthropology (1-4) Problem-oriented (directed) readings in anthropology. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 4 hours.

480 Principles of Cultural Anthropology (3) Exploration and illustration of major concepts, theories, and methods in cultural anthropology, with applications to analysis of specific ethnographic data. Prerequisite: 150. Consent of instructor.

481 Linguistic Anthropology (3) Basic linguistic concepts related to the study of language, culture, and society. Prerequisite: 150 or consent of instructor. Consent of instructor.

483 Dynamics of Culture (3) Definition and development of culture with specific emphasis on the relationship between cultural evolution and political evolution. Continuation and change in diverse cultural groupings, emphasizing non-Western and contemporary data. Prerequisite: 130.

484 Political Anthropology (3) Examination of the political organization of human societies and political in scale and process. The role of symbols, ritual, and belief and their relationship to political power. Continuation and change in diverse cultural groupings, emphasizing non-Western and contemporary data. Prerequisite: 130 or consent of instructor. Consent of instructor.

486 Human Primatology (3) Literaray examination of the human primate. Emphasis on human primates in relation to the aboriginal use of stimuli in subsistence and culture. Identification and interpretation of primate behavior, data used, and management and functional approach to field projects. Prerequisite: 150 or consent of instructor.

491 Museology I: Museums, Purpose and Function (3) (Same as Art 481.) Introduction to museum science and practice. History and functions of museums. Course content and sequence will include lectures, laboratory and field visits, and such special presentations as may be arranged. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 6 hours. Prerequisite: Either 110, 120, or consent of instructor.

493 Independent Study (3-15) Independent study in anthropology. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 15 hours. Prerequisite: Either 110, 120, or consent of instructor.

494 Off-Campus Study (3-15) Independent study in anthropology. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 15 hours. Prerequisite: Either 110, 120, or consent of instructor.

495 Human Paleontology (4) Introduction to human paleontology. Emphasis on human bodies, historical background, and cultural behavior. Reference to popular science materials and techniques. Prerequisite: 110.

496 Introduction to Marine Archaeology (3) Field archaeology and interpretation of archaeological remains in the prehistoric and historical eras. Writing emphasis: stress on one in-class essay examination and 3000 words of writing outside the classroom. Prerequisite: 130 or consent of instructor.

496 Independent Study (1-15) Independent study in marine archaeology. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 15 hours. Prerequisite: Either 110, 120, or consent of instructor.

496 Marine Archaeology (3) Field archaeology and interpretation of archaeological remains in the prehistoric and historical eras. Writing emphasis: stress on one in-class essay examination and 3000 words of writing outside the classroom. Prerequisite: 130 or consent of instructor.

496 Independent Study (1-15) Independent study in marine archaeology. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 15 hours. Prerequisite: Either 110, 120, or consent of instructor.

496 Marine Archaeology (3) Field archaeology and interpretation of archaeological remains in the prehistoric and historical eras. Writing emphasis: stress on one in-class essay examination and 3000 words of writing outside the classroom. Prerequisite: 130 or consent of instructor.

496 Independent Study (1-15) Independent study in marine archaeology. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 15 hours. Prerequisite: Either 110, 120, or consent of instructor.

496 Marine Archaeology (3) Field archaeology and interpretation of archaeological remains in the prehistoric and historical eras. Writing emphasis: stress on one in-class essay examination and 3000 words of writing outside the classroom. Prerequisite: 130 or consent of instructor.

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496 Independent Study (1-15) Independent study in marine archaeology. Prerequisite: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 15 hours. Prerequisite: Either 110, 120, or consent of instructor.

333 Advanced Structural Design (3) Analysis of deflection, stability, and strength of steel and reinforced concrete structures. Introduction to the methods of design. Prereq: 322 or equivalent.

334 Advanced Structural Design (3) Phases of professional practice in the design and construction of the various forms of modern materials. Historical and advanced mathematical and experimental analysis of structures including use of computer programs. Prereq: 323 or equivalent.


341 Description of Structural Systems (3) History, evolution, and architectural considerations of building systems. Function and use of building systems. Prereq: 323 or equivalent.

342 Environmental Control Systems I (4) Heating, ventilating, and air-conditioning systems, including materials and active and passive systems. Energy systems and fire protection. Prereq: 323 or equivalent.

343 Environmental Control Systems II (3) Principles of mechanical, electrical, and plumbing systems. Design of heating and cooling systems. Methods of estimating project costs. Prereq: 342 or equivalent.


372 Architectural Design IV (6) Design synthesis, integration of design elements, and development of projects under faculty direction. Prereq: 366 or equivalent.

400 Service Practice (6) Experience in architecture or equivalent offered for a minimum of 6 months to be continued with STEP 3 projects under faculty direction. Prereq: 366 or equivalent.

401 Introduction to Preservation (3) History, theory, and practice of architecture and preservation in modern times.


405 Descriptive Analysis of Historic Buildings (3) Techniques of descriptive analysis and historic preservation technology used in building studies.

406 Identification of Historic Buildings (3) Identification and analysis of architectural elements of buildings from various architectural periods, with emphasis on American architecture. Survey techniques.

409 Cultural Patterns of Architecture (3) Study of architectural trends in the urban environment, social, economic, and political forces as sources of form.

410 History and Theory of Urban Form (3) Patterns of spatial organization of buildings and human activities with emphasis on architecture of the modern city, rural areas, and regional patterns of development.

411 Architecture Since 1945 (3) Recent architectural developments and evolution of form.

412 Non-Western and Indigenous Architecture (3) Elements of building technology, aesthetic and material availability, and economic level, as designed by anonymous builders. Exposure to prehistoric times to the present including the pueblo courtyard of the Southwest. Temples, town halls, and other buildings of the world. Prereq: 411.

413 Tennessee Architecture (3) History of settlement patterns and building traditions in Tennessee. Selected examples explored through historical assignments, lectures, discussions, and field trips. Historical research using primary materials.

414 History of Architectural Technology (2) Building materials and construction techniques from the time of man to the present.

415 Medieval Architecture (3) History of architecture from the decline of Rome to the beginning of the Renaissance. Designs as Medieval to 1400 AD.


417 The International Style (3) A survey of architecture of the modern/movement, primarily in Europe and America, covering the years 1900 to 1945.


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

421 History of Landscape Architecture (3) Evolution of landscape architectural concepts and design in the United States from prehistoric times to the present. Techniques of design, problem solving, and construction.

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

431 Structural and Mechanical Applications (4) Analysis and selection of structural and mechanical systems for a specific project. Technical analysis to incorporate a unified design solution. Prereq: 320, 341, 417, 421. F


436 Advanced Lighting (3) In-depth analysis and innovative concepts of design of lighting, heating, ventilation, and artificial lighting. Prereq: 341.

437 Advanced Lighting (3) In-depth analysis and innovative concepts in design of lighting. Prereq: 341.

438 Professional Practice (3) Methods of commissioning, negotiation, and administration. Prereq: 341.

439 Professional Practice (3) Methods of commissioning, negotiation, and administration. Prereq: 341.

440 Professional Practice (3) Methods of commissioning, negotiation, and administration. Prereq: 341.

441 Comprehensive Design Project I (6) Student selected project from the comprehensive design courses provided for the student. Student may relate to the student's Comprehensive Design Project. Prereq: Certain architectural electives may be stipulated as prerequisite for specified sections. F

442 Comprehensive Design Project II (6) Student selected project from the comprehensive design courses provided for the student. Student may relate to the student's Comprehensive Design Project. Prereq: Certain architectural electives may be stipulated as prerequisite for specified sections. F

443 Earthquake-Resistant Structures (3) Analysis and design of structures for earthquake loads. Introduction to earthquake forces. Evaluation of structural systems, response, and design. Introduction to seismic forces in structural systems, foundations, and structures. Prereq: 341, 342.


445 Advanced Lighting (3) In-depth analysis and innovative concepts of design of lighting, heating, ventilation, and artificial lighting. Prereq: 341.

446 Advanced Lighting (3) In-depth analysis and innovative concepts in design of lighting. Prereq: 341.
106 Introduction to Metalsmithing and Jewelry (3) Basic metalsmithing and jewelry fabrication techniques including: repoussé, annealing, forging, chasing, embossing, dapping, drawing, rolling, sinking, soldering, fusing, polishing, and patination with individual student problems to develop a personal style of expression. Prerequisite: 105. May be repeated. Maximum 6 hours.

107 Steel Sculpture I (3) Prerequisites: Introduction to Metalsmithing and Jewelry. May be repeated. Maximum 6 hours.

108 Environmental Art (3) Fabrication of installations and environments with non-traditional materials. Emphasis on the integration of art and the environment.

109 Fiberscapes (3) Contemporary fiber art including the use of natural and synthetic materials. Emphasis on fiber techniques and processes.

110 Fiber: Woven Wall Works (3) Fabrication of woven wall forms on the vertical loom, with emphasis on experimental use of fiber in the development of architecturally scaled wall works.


112 Fiber: Painting and Dyeing (3) Painting and dyeing processes in the development of two-dimensional surface design on fabric, including batik, direct-dyeing, and related approaches.

113 Metalscapes (3) Development of metal structures and environments with emphasis on the integration of art and the environment.

114 Special Topics in Steel Sculpture (3) Prerequisites: Introduction to Metalsmithing and Jewelry. May be repeated. Maximum 6 hours.

115 Principles of Cultural Anthropology (3) An introduction to the study of cultural anthropology including the study of human societies and cultures.

116 Western Art I (3) Major periods in Western art with emphasis on the development of art from the prehistoric period through the Middle Ages.

117 Western Art II (3) Major periods in Western art with emphasis on the development of art from the Renaissance through the Modern Age.

118 Ceramic I: Handbuilding (3) All ceramic handbuilding techniques including forming methods, glazing, clay preparation, firing, small and large scale pieces. Ceramic history through slide lectures.

119 History of Architecture (3) Development of architecture from Prehistoric times to the present, with emphasis on architectural styles and movements.

120 Graphic Design I (3) Fundamentals of visual design with emphasis on composition, typography, and the development of individual style.

121 Graphic Design II (3) Further exploration of graphic design with emphasis on design principles and the development of individual style.

122 Film Design (3) Introductory theory and practice of filmmaking. Emphasis on the use of the motion picture camera. (Same as Cinema Studies 292.)

123 Special Topics in Printmaking (3) Prerequisites: 101 or 103. May be repeated. Maximum 6 hours.

124 Special Topics in Sculpture (3) Prerequisites: 101 or 103. May be repeated. Maximum 6 hours.

125 Special Topics in Painting (3) Prerequisites: 101 or 103. May be repeated. Maximum 6 hours.

126 Intermediate Design and Color (3) Further exploration of design techniques, with emphasis on color theory and design principles.

127 Intermediate Drawing and Design (3) Further exploration of design techniques, with emphasis on drawing and design principles.

128 Intermediate Photography (3) Further exploration of photography techniques and practices.

129 Intermediate Printmaking (3) Further exploration of printmaking techniques and practices.

130 Special Topics in Ceramic Sculpture (3) Prerequisites: 101 or 103. May be repeated. Maximum 6 hours.

131 Special Topics in Metal Sculpture (3) Prerequisites: 101 or 103. May be repeated. Maximum 6 hours.

132 Special Topics in Photography (3) Prerequisites: 101 or 103. May be repeated. Maximum 6 hours.
314 Painting Portfolio Review (0) Review of prior work in watercolor. Successful completion required prior registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.


316 Watercolor Portfolio Review (0) Review of prior work in watercolor. Successful completion required prior registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

320 Ceramics Portfolio Review (0) Review of prior work in ceramics. Successful completion required prior registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.


334 Photographic Techniques Workshop (4) Theoretical and practical study of the works of August Sander, Diane Arbus, and others. Prereq: 331.


351 Black and White Illustration (3) Black and white illustration. Prereq: 351.

354 Steel Sculpture I (3) Further exploration of concepts and materials. Prereq: 241 and 340 or consent of instructor. May be repeated. Maximum 6 hours.


360 Printmaking Portfolio Review (0) Review of prior work in printmaking. Successful completion required prior registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

362 Intaglio I (4) Color intaglio printing from a single metal plate, including: etching, aquatint, and drypoint. Prereq: 360 and 360. May be repeated. Maximum 6 hours.

363 Screen Printing I (4) Advanced work in basic printmaking techniques including photo screening. Prereq: 362. May be repeated. Maximum 6 hours.


371 European Art: Prehistoric to 1300 (3) Art of the Mediterranean and Near East civilizations before the Christian era. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

377 History of Modern Sculpture in Europe and America (6) From 1900 to present: emphasis on Caravaggio, Bernini, and Italian Baroque art. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

383 Art of Italy: 1475-1575 (3) Concentrated study of Duccio, Giotto, Masaccio, Donatello, and other masters of the Renaissance. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

396 Beginning Airbrush (3) Techniques of airbrushing. Prereq: 311. May be repeated. Maximum 12 hours.

397 Advanced Film Design (3-6) Theory and practice of film design. Prereq: 292. (Same as Cinema Studies 497.) May be repeated. Maximum 12 hours.

398 Special Topics in Film (3) Student or instructor initiated course offered at convenience of department to enhance and expand the painting and writing curriculum. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

401 Drawing IV (6) Individualized pursuit of personal drawing techniques and concepts. Prereq: and individual and group critiques and weekly life drawing sessions. Prereq: 311. May be repeated. Maximum 12 hours.

403 Special Topics in Fiber/Fabric (3) Student or instructor initiated course offered at convenience of department to enhance and expand the painting and writing curriculum. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

405 Advanced Computer Enhanced Design (3) Prereq: 404 or consent of instructor. May be repeated. Maximum 12 hours.

415 Watercolor IV (6) Advanced painting with water-based media on paper stressing individual concepts and ideas. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

416 Advanced Film Design (3-6) Theory and practice of film design. Prereq: 292. (Same as Cinema Studies 497.) May be repeated. Maximum 12 hours.

420 Ceramics: Individual Projects (3-6) Special topic in ceramics. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

421 Ceramics I: Individual Projects (3) Special topic in ceramics. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

422 Ceramics: Individual Projects (3) Special topic in ceramics. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

423 Ceramic II: Individual Projects (3) Special topic in ceramics. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

425 History of Ceramics Seminar (3) Survey of the history of ceramics from ancient to contemporary. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

429 Special Topics in Ceramics (3) Student or instructor initiated course offered at convenience of department to enhance and expand the painting and writing curriculum. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

434 Advanced Film Design (3-6) Theory and practice of film design. Prereq: 292. (Same as Cinema Studies 497.) May be repeated. Maximum 12 hours.
FIELD EXPERIENCES

441 Plant Tissue Culture (M) Methods for the cultivation of cells, tissues, and organs, including media preparation and maintenance of cultures. Lectures and lab. Prerequisites: Botany 110-120 or Botany 118-128 or equivalent and Mathematics 150. 3 hours.

BROADCASTING (202)

410 Radio and Television News (3) History, economics, structure and regulation of broadcasting including radio, television, cable, satellites and related technologies. Role of broadcast in society. Prerequisites: Communications 100. 3 hours.

430 Radio and Television Sales and Promotion (3) Principles and practices of radio, television, and cable sales and promotion. Lecture and lab material. Prerequisite: Communications 100. 3 hours.

310 Radio and Television Programming (3) Program development in radio and television including audience research, role of imagination, creativity and team work in a service production station. Lecture and lab material. Prerequisite: Communications 100. 3 hours.

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BRAIN FUNCTION

3120 Radio and Television News (3) History, economics, structure and regulation of broadcasting including radio, television, cable, satellites and related technologies. Role of broadcast in society. Prerequisites: Communications 100. 3 hours.

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430 Radio and Television Sales and Promotion (3) Program development in radio and television including audience research, role of imagination, creativity and team work in a service production station. Lecture and lab material. Prerequisite: Communications 100. 3 hours.
350 Business Career Planning and Placement (1) Career opportunities in business. Major career choices; preparing for and conducting a job search; writing a Career Planning Office. Satisfaction Not Credit/No Credit. Pre Req: Satisfactory progression to upper-division level in Business or Liberal Arts Business Administration, banking, capital, management, law, organizational behavior, product liability, consumer protection, business situations, environmental law, international law, contracts, torts. Pre Req: Junior standing. File.

467 Honors: Corporate Executive in Residence Seminar (1) Introduction to and analysis of the concepts and issues in the field of business with emphasis on interactions between businesses and the university. Credit by permission of instructor. See page 56.

499 Forensic Study [1-9] Pre Req: Consent of Instructor. See page 56.


540 Seminar in Business Policy (1) Capstone course for students in the Language and Business Program designed to integrate business concepts covered in other business courses. For students with major concentrations in international business.

BUSINESS LAW (216)

160 The Legal Environment of Business (3) Introduction to legal system including legal offices, processes, areas of law, code of evidence, legal organization, regulation, ethical laws, arbitration law, employer-employee relationships, product liability, consumer protection, business situations, environmental law, international law, contracts, torts. Pre Req: Junior standing. File.

421 Law of Business Organizations and Commercial Transactions (2) Introduction to legal implications of basic business transactions including contracts, property, secured transactions, liens, bankruptcy, capital, management, law, organizational behavior, product liability, consumer protection, business situations, environmental law, international law, contracts, torts. Pre Req: Junior standing. File.


CHEMISTRY (235)

100 Principles of Chemistry (3) Bonding and nucleo- cides as a basis for the analysis of the reactivity of materials. Bonding, valence, and coordination, interaction of biological systems, analysis of chemical reactions, metabolism, biological theory, and energy. Pre Req: 430 or 440. F, S.


120-130 General Chemistry (4) A general course in theoretical and descriptive chemistry. 120: Modern atomic theory, chemical bonding, nuclear structure, quantum theory, periodicity, chemical reactions. 130: Inorganic chemistry. 130A: General inorganic chemistry. 130B: Coordination and organometallic chemistry, electrochemistry, descriptive chemistry of nonmetals and metals, electrophilic addition. Pre Req: 120. F, S.

121-131 General Chemistry (4) For chemistry majors. 121: Subject matter similar to Chem 120-130. Pre Req: 440 or 450. F, S.

121-130-138 Honors: General Chemistry (4) Hours and lab. F, S; 138 F.

1400 Chemical Computing (2) Use of the computer in solving problems in environmental chemistry. Required of and limited to chemistry majors. Pre Req: Chem 120 or 130. 138. 1 hour and 1 lab. File.

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

230 Inorganic Chemistry (3) Periodicity, valence, bonding, and the descriptive chemistry of the elements; coordination compounds; nuclear chemistry; transition elements. Pre Req: 120 or 131 or 138. F.

400 Analytical Chemistry (3) Principles and practices of quantitative measurements of chemical substances. Axiological, acid-base, complexometric, and radioisotopic applications. quantitative measurements of chemical substances. Axiological, acid-base, complexometric, and radioisotopic applications. Pre Req: 120 or 131 or 138. Pre Req: 430 or 440. F.

410 Analytical Chemistry Laboratory (3) Experiments on topics covered in 410. Coreq: 410. Pre Req: 430 or 440. F.


306-360 Organic Chemistry (3,3) Compounds of car- bon and their reactions. Reaction mechanisms, synthetic techniques, spectroscopic and other physical properties. Must be taken in sequence. Pre Req: 120 or 131 or 138. Coreq for 306-360.


420 Research in Chemistry (3) Open to senior majors with consent of department head. Written reports are required. Advanced students work with faculty on projects requiring knowledge and data acquired in chemistry curriculum. May be repeated. Maximum 6 hours. F, S.

450 Topics in the Development of Chemistry (3) Historical development of topics such as the atomic theory, chemical industry, interpersonal relationship, potential energy, potential energy. Subsequently, the student may offer to another. Assignments include readings from original technical literature (duration, present and future) and from current journals and monographs. Includes the use and relevance of evidence of the work of others. Pre Req: 440. F, S.

460 Topics in the Development of Chemistry (4) Historical development of topics such as the atomic theory, chemical industry, interpersonal relationship, potential energy, potential energy. Subsequently, the student may offer to another. Assignments include readings from original technical literature (duration, present and future) and from current journals and monographs. Includes the use and relevance of evidence of the work of others. Pre Req: 440. F, S.

460 Senior Seminar (1) Discussions by faculty and students on current research and topics from technical literature. Oral and written reports required. Address- ed to current graduates in the major. In chemistry. Pre Req: May be repeated. Maximum 2 hours.

490 Advanced Chemical Experimentation (3) Laboratory work involves advanced techniques in chemical problem solving. Synthesis and characterization of complexes and organic compounds, with emphasis on independent study of advanced chemical literature. Pre Req: 230, 320, and 360. Pre Req: 430 or 440. F.

490 Advanced Inorganic Chemistry (3) Advanced applications of experimental techniques to solve chemical problems. Synthesis and characterization of complexes and organic compounds, with emphasis on independent study of advanced chemical literature. Pre Req: 230, 320, and 360. Pre Req: 430 or 440. F.


490 Radioactivity and its Application (2) Radioactive materials in tracer and therapeutic applications. Radioactivity, nuclear energy, experimental techniques, nuclear measurement, the use of radioisotopes in medicine, agriculture, nutrition, and food. Not for credit in chemistry, biology, or biology majors. Students are encouraged to take one or 2 credits in nuclear science and one of the following: 100, 110, 130, 138. Pre Req: 430.


471-481 Biophysical Chemistry (3) (Same as Bio- chemistry 471-481)
470 Student Teaching (15) Responsibility for planning, supervision, evaluation, public relations, etc. Must be completed immediately preceding enrollment in 480. Prerequisites: Must meet prerequisite requirements. Satisfaction-Rice Credit only. F, Sp.

480 Practicum in Family Life Education (8) Supervised practicum experiences in community-based family education programs. Prerequisite: 460. Placement, experiences and requirements. May be repeated. Maximum 12 hours.

485 Special Topics in Child and Family Studies (3-6) Topics of interest to students. Prerequisite: 450 or consent of instructor. Maximum 6 hours. F, Sp.

495 Student Internship (1-9) Internship in Child and Family Studies. Prerequisite: 450 or consent of instructor. May be repeated. Total 15 hours. F, Sp.

497 Honors: Child and Family Studies (3) Issues or topics affecting children and/or families, designed to meet particular interests of the student. Prerequisite: 5 hours in Child and Family Studies, courses beyond GPA of 3.25 in major, junior standing, or consent of instructor. May be repeated. Maximum of 6 hours. F, Sp.

CINEMA STUDIES

201 Film Design (3) (Same as Art 202.)

210 Introduction to Film Studies (3) (Same as English 210.)

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

352 German Film (3) (Same as German 352.)

354 Film and American Culture (3) (Same as English 354 and American Studies 354.)

390 Advancement Film Design (1-2)

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

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

460 Sexuality and Cinema (3) (Same as Women's Studies 460.)

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

492 Acts of Angels (3)

493 Ancient Greece as a Teacher (3)

497 Honors: Child and Family Studies (3-6) Issues or topics affecting children and/or families, designed to meet particular interests of the student. Prerequisite: 5 hours in Child and Family Studies, courses beyond GPA of 3.25 in major, junior standing, or consent of instructor. May be repeated. Maximum of 6 hours. F, Sp.

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497 Honors: Child and Family Studies (3-6) Issues or topics affecting children and/or families, designed to meet particular interests of the student. Prerequisite: 5 hours in Child and Family Studies, courses beyond GPA of 3.25 in major, junior standing, or consent of instructor. May be repeated. Maximum of 6 hours. F, Sp.

CLASSICS

212 Greek Myths (3) A study of myths with emphasis on how they reflect the Greek vision of the universe and human nature. Prerequisite: 200 hours in Classics and/or language courses. May be repeated. Total 200 hours. F, Sp.

221 Early Greek Mythology (3) Archaic Greek religion and myths. Prerequisite: 200 hours in Classics and/or language courses. May be repeated. Total 200 hours. F, Sp.

253-254 Greek and Roman Literature in English (3-4) Greek and Roman literature from Homer to Menander, with emphasis on the major literary periods of ancient Greece and Rome. Prerequisite: 1 year of Latin. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

261 Roman Civilization (3) Major aspects of ancient Roman civilization: religion, art, political life, literature, law, art, archaeology, and historiography. Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

262 Roman Civilization (3) Major aspects of ancient Roman civilization: religion, art, political life, literature, law, art, archaeology, and historiography. Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

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

292 Film Design (3) (Same as Art 292.)

292 Film Design (3) (Same as Art 292.)

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

321 German Film (3) (Same as German 321.)

323 German Film (3) (Same as German 323.)

331 Archaeology of the Aegean Bronze Age and Early Greece (3) Includes Troy, the Cycladic Islands, and the late Neolithic of Greece. Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

334 Cities and Sanctuaries of the Ancient Greek World (3) Archaeological survey of the development of the Greek city and sanctuary from prehistoric times through the Roman period (ca. 2000 B.C.-200 A.D.). Prerequisites vary according to topic. May be repeated up to three times with different topics. A, F.

335 Aegean Bronze Age to Early Greece (3) Archaeological survey of the development of the Greek city and sanctuary from prehistoric times through the Roman period (ca. 2000 B.C.-200 A.D.). Prerequisites vary according to topic. May be repeated up to three times with different topics. A, F.

337 Ancient History (3) The history of the western world from the end of the ancient world (ca. 900 B.C.) to the beginning of the High Middle Ages (ca. 900 A.D.). Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

338 Ancient History (3) The history of the western world from the end of the ancient world (ca. 900 B.C.) to the beginning of the High Middle Ages (ca. 900 A.D.). Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

341 Greek Civilization (3) Major aspects of ancient Greek civilization: religion, art, political life, literature, law, art, archaeology, and historiography. Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

343 Women in the Greek and Roman World (3) The role of women in the apparently male-oriented world of Classical Greece and Classical Rome. Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

344 Women in the Greek and Roman World (3) The role of women in the apparently male-oriented world of Classical Greece and Classical Rome. Prerequisite: 1 year of Latin or permission of the instructor. Writing emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

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

352 German Film (3) (Same as German 352.)

354 Film and American Culture (3) (Same as English 354 and American Studies 354.)

390 Advancement Film Design (1-2)

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

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

460 Sexuality and Cinema (3) (Same as Women's Studies 460.)

489 Special Topics in Film (3) (Same as Art 489.)
COMPUTER SCIENCE (266)

100 Introduction to Computing (4)
Principles of modern digital computers, software, computing toolscurrently available. Organization of computer components, hardware organization, introduction to assembly language, microprogramming control units. Computer component devices. Prereq : 111 and 112. 3 hour lab required.

111 Introduction to Programming Using FORTRAN (3)
Problem solving and algorithm development. Introduction to programming; emphasis on developing good programming habits. Problem solving and algorithm development. Building abstractions with procedures and data. Programming in a modern computer language. 100 and 102 may not both be taken for credit. 100 for students with little or no background in computation. Prereq : 111 and 112. 3 hour lab required.

120 Introduction to Programming (4)
Problem solving and algorithm development. Organization and characteristics of modern digital computers. Emphasis on developing good programming habits. Building abstractions with procedures and data. Programming in a modern computer language. 100 and 102 may not both be taken for credit. 3 hour lab required.

111 Computer Organization (3)
Number system, internal representation of numbers in computers, hardware components, hardware organization, introduction to assembly language, microprogramming control units. Computer component devices. Prereq : 111 and 112. 3 hour lab required.

121 Data Structures (3)
Structured programming, data structures and algorithms. Lists, stacks, queues, trees, binary search trees, graphs. Prereq : 100 or 101 and consent of instructor.

119 Electronic Printing and Graphics (3)
Current hardware and software technology, emphasis on developing good programming habits. Problem solving and algorithm development. Building abstractions with procedures and data. Programming in a modern computer language. 100 and 102 may not both be taken for credit. 100 for students with little or no background in computation. Prereq : 111 and 112. 3 hour lab required.

112 Problem Solving (3)
General approach to problem solving, emphasis on good programming habits. Problem solving and algorithm development. Building abstractions with procedures and data. Programming in a modern computer language. 100 and 102 may not both be taken for credit. 3 hour lab required.

130 Discrete Structures (3)
Propositional and predicate calculus, algorithms, graphs, trees, sorting, algorithms, lists. Prereq : 100 or 101. 3 hour lab required.

210 Logic Design (3)
Logic design, microprocessor and microcontroller interfacing. Introduction to digital electronics and computer science. Prereq : 111. 3 hour lab required.

231 Introduction to Information Systems Design (3)
Principles of modern computer systems, emphasis on developing good programming habits. Problem solving and algorithm development. Building abstractions with procedures and data. Programming in a modern computer language. 100 and 102 may not both be taken for credit. 100 for students with little or no background in computation. Prereq : 111 and 112. 3 hour lab required.

251 Numerical Algorithms (3) (Same as Mathematics 251)
Understanding computer systems hardware, including bus architecture, instruction set architecture, processor components, operating systems, virtual memory and device drivers. Prereq : 111 and 112. 3 hour lab required.

252 Computer Graphics (3) (Same as Mathematics 252)
Interactive computer graphics. Prereq : 111 and 112. 3 hour lab required.

260 Introduction to Artificial Intelligence (3)
Introduction to AI languages. Basic techniques of heuristic search and expert system tools. Prereq : 111 and 112. 3 hour lab required.

261 Functional Languages (3) Functional, applicative and object-oriented languages such as LISP and SMALLTALK. Prereq : 111 and 112 and Mathematics 222. 3 hour lab required.

262 Expert Systems (3) Production rule model and its implementation in expert system shells. Emphasis on building application-domain specific expert systems. Prereq : 111 and 112 and Mathematics 222. 3 hour lab required.

263 Artificial Neural Networks (3) Functional, applicative and object-oriented languages such as LISP and SMALLTALK. Prereq : 111 and 112 and Mathematics 222. 3 hour lab required.

264 Artificial Intelligence (3) Production rule model and its implementation in expert system shells. Emphasis on building application-domain specific expert systems. Prereq : 111 and 112 and Mathematics 222. 3 hour lab required.

265 Linear Programming (3) Linear programming and the simplex method, the revised simplex method, duality, sensitivity analysis. Prereq : 111 and 112. 3 hour lab required.

266 Introduction to Database Systems (3) Commercial software, database concepts and techniques. Prereq : 111 and 112. 3 hour lab required.
156

Courses of Instruction

work, and relational models; relational calculus and languages; implementation and evaluation of effective and efficient computer algorithms. Trees, sorting, searching, graphs, pattern matching. Prereq: 360. 3 hour lab required.

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

DANCE (274)

101 Practicum: Dance Production (1) Supervised technical and production experiences in student dance company. May be repeated. Maximum 2 hours.

201 Practicum: Dance Performance (1) Preparation and presentation of university dance company performances. Participation through audition only. May be repeated. Maximum 16 hours.

210 Ballet Level I (2) Practice and technique in elementary classical ballet techniques. May be repeated. Maximum 12 hours.

210 Tap Level I (2) Instruction and practice in elementary tap dance technique. May be repeated. Maximum 12 hours.

310 Jazz Level I (2) Instruction and practice in elementary top jazz dance techniques. May be repeated. Maximum 12 hours.

320 Tap Level I (2) Selected choreographic and production techniques. Topics may vary; approval of instructor. May be repeated. Maximum 16 hours.

420 Musical Theater (3) Technical and creative production. Syntactic, semiotic, and logical analysis of information content, workflow, critical paths, etc. Prereq: 111, 112 and 311. 3 hour lab required.

480 Human Interface Design (3) Design and implementation process from initial requirement and specification statements to testing, testing, implementation, and maintenance. Prereq: 111 and 112.

483 Information Theory (3) Theory of communication: source conservation. Limited to students in the College of Arts and Sciences. Prereq: Consent of instructor. May be repeated. Maximum 9 hours.

ECONOMICS (283)

100 Survey of Economic Ideas (3) Ideas of major economic systems in present-day economic environment. May not be substituted for Economics 201.

201 Introductory Economics: A Survey course (4) Theory, history, and policy of the modern economic system; function, price, and demand, costs of production, market models, national income and employment theory, taxation and government, money and fiscal policy, inflation, and international trade. Prereq: Consent of instructor. May be repeated. Maximum 9 hours.


207 Honors: Introductory Economics (4) Honors course for students of superior ability and interest. Limited to students registered for graduate credit. Students accepted on the basis of their records.

310 Intermediate Microeconomics (4) Theory of consumer behavior, production of goods and services, behavior of firms in perfectly competitive, monopolistic and imperfectly competitive markets; implicit and explicit costs, price theory, and welfare economics. Prereq: Economics 201.

320 Intermediate Macroeconomics (3) Measurement of income and prices; aggregate demand; output, employment and income distribution, growth and unemployment, inflation, fiscal and monetary policies and growth. Prereq: 201.


326 International Economics (3) Balance of payments, exchange rates, monetary policies, payments accounts, international monetary arrangements, comparative advantage, tariffs, duties, quotas, and common economic policies. Prereq: Economics 201.

330 Economic History (3) Brief historical survey of economic systems from a transnational point of view. Prereq: Economics 201. May be repeated. Maximum 9 hours.

335 Economic Theory (3) Basic economic theory: supply, demand, equilibrium, market analysis, comparative statics, utility analysis, money, and income determination. Prereq: Economics 201.

336 Macroeconomics (3) Theory of national income and employment, growth and unemployment, fiscal and monetary policies, and economic models. Prereq: Economics 201.

355 Microeconomics (3) Production, cost, and pricing behavior in various market structures. Prereq: Economics 201.

360 Rhythmic Analysis (3) Basic nature and principles of rhythmic and movement, contemporary and popular dance forms in their relationship to writing and movement. Prereq: Music 360 or 460 or approval of instructor. May be repeated. Maximum 16 hours.

362 Historical Dance Analysis (3) Historical and cultural analysis of dance forms. Prereq: Music 360 or 460 or approval of instructor. May be repeated. Maximum 16 hours.

400 Independent Study (1-3) May be repeated. Maximum of 6 hours may be applied to the major. Prereq: Consent of instructor.

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

406 History of Dance through the 19th Century (3) Survey of the dance of various societies and cultures from prehistoric times to the 19th century. Aesthetics of understanding or grading status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

407 History of Dance (3) Survey of the development of dance in theatrical and nontheatrical settings. May be repeated. Different level of performance is expected of those registered for graduate credit.

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.

440 Composition I (2) Choreographic skill emphasizing design, use of costumes and props. Prereq: 445 or approval of instructor. May be repeated. Maximum 10 hours.

445 Composition I (2) Techniques for dance writing and notation. Exploration of notation with emphasis on notation and reading of contemporary notation. Prereq: 440 or approval of instructor. May be repeated. Maximum 16 hours.

446 Composition II (2) Choreographic skill emphasizing design, use of costumes and props. Prereq: 445 or approval of instructor. May be repeated. Maximum 10 hours.

448 Composition III (2) Choreographic skill emphasizing design, use of costumes and props. Prereq: 445 or approval of instructor. May be repeated. Maximum 16 hours.

450 Composition III (3) Application of choreographic and production skills in the presentation of two works. Prereq: 445 or approval of instructor. May be repeated. Maximum 16 hours.

460 Rhythmic Analysis (3) Basic nature and principles of rhythmic and movement, contemporary and popular dance forms in their relationship to writing and movement. Prereq: Music 360 or 460 or approval of instructor. May be repeated. Maximum 16 hours.

470 Teaching Creative Dance for Children (2) Theory, techniques, and materials for teaching children between ages 3 and 12. Prereq: 480 or permission of instructor. May be repeated. Maximum 15 hours.

480 Dance History through the 19th Century (3) Survey of the dance of various societies and cultures from prehistoric times to the 19th century. Aesthetics of understanding or grading status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

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

493 Independent Study (1-15) Special project in area of student's primary interest. Faculty selected with student's faculty advisor. Students must be advanced standing and approval of instructor. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

523 Economic History of the North Atlantic Community (3) Origin, development, and development of state system, role of economic and political evolution. Integration and Atlantic economy. Prereq: 445; focusing emphasis course at
324 Survey of Labor Economics (3) Examination of economic concepts and theories with respect to the labor market. Prerequisite: Econ 201. Writing requirement.

311 Career and Personal Development (3) Understanding and application of the psychology of learning and classroom management. Prerequisite: Senior standing, GPA in economics courses, and consent of instructor.

402 Social Theory and Educational Practice (1) (Same as Educational and Counseling Psychology 315.) Theory and research regarding etiology, philosophical and social perspectives on contemporary social issues, and related professional issues. Prerequisite: Admission to Teacher Education Program. (Same as Education 315.) F, Sp

410 Sex Role Development: Implications for Education (3) (Same as Educational and Counseling Psychology 315.) Theory and research regarding etiology, philosophical and social perspectives on contemporary social issues, and related professional issues. Prerequisite: Admission to Teacher Education Program. (Same as Education 315.) F, Sp

351 Monetary Economics (3) Role of money in the economy, Federal Reserve System. Evaluation of money, inflation, interest rates, and trade policies. Prerequisite: Econ 201. Writing requirement.

460 Self-Management in the Helping Professions (3) Perspectives on mental health with applications to education and other social settings. Prerequisite: Consent of instructor.

472 The Dishonored Student: Psychological Implications (3) Theory and research regarding rebellious, psychosocial behavior and appropriate interventions. Prerequisite: Consent of instructor.

341 Microeconomic Fluctuations (3) Analysis of the search process in analyzing macroeconomic fluctuations; the role of expectations and speculation in fluctuations. Prerequisite: Econ 231 or consent of instructor.

481 Special Topics (3) Topic varies. Prearranged description submitted by department each time course is offered. Prerequisite: Senior standing.

305 Laboratory in Educational and Counseling Psychology (1-3) Practice in acquiring knowledge and skill in psychological testing and assessment. Maximum 9 semester hours. Satisfactory/No Credit or letter grade.

314 Personality and Social Dynamics (3) (Same as Educational and Counseling Psychology) Human development through the life cycle, social and personality development. Prerequisite: Consent of instructor. F, Sp

301 Laboratory in Educational and Counseling Psychology (3) Language and language development of children. Prerequisite: Consent of instructor. F, Sp

326 Teaching Language Arts/Reading in Elementary and Middle Schools (3) Language and language development of children. Prerequisite: Consent of instructor. F, Sp

315 Priniciples of Education Test Construction for Teachers (2) (Same as Educational and Counseling Psychology 315.) Techniques and strategies for constructing tests of educational significance. Prerequisite: Teacher Education Program. (Same as Education 315.) F, Sp

350 Microeconomic and Macroeconomic Models (3) Choice, specialization, and the allocation of resources in different economic systems. Prerequisite: Econ 231 or consent of instructor.

325 Principles of Education Test Construction for Teachers (2) (Same as Educational and Counseling Psychology 315.) Techniques and strategies for constructing tests of educational significance. Prerequisite: Teacher Education Program. (Same as Education 315.) F, Sp

324 Survey of Labor Economics (3) Examination of economic concepts and theories with respect to the labor market. Prerequisite: Econ 201. Writing requirement.

402 Social Theory and Educational Practice (1) (Same as Educational and Counseling Psychology 315.) Theory and research regarding etiology, philosophical and social perspectives on contemporary social issues, and related professional issues. Prerequisite: Admission to Teacher Education Program. (Same as Education 315.) F, Sp

410 Sex Role Development: Implications for Education (3) (Same as Educational and Counseling Psychology 315.) Theory and research regarding etiology, philosophical and social perspectives on contemporary social issues, and related professional issues. Prerequisite: Admission to Teacher Education Program. (Same as Education 315.) F, Sp

351 Monetary Economics (3) Role of money in the economy, Federal Reserve System. Evaluation of money, inflation, interest rates, and trade policies. Prerequisite: Econ 201. Writing requirement.

460 Self-Management in the Helping Professions (3) Perspectives on mental health with applications to education and other social settings. Prerequisite: Consent of instructor.

472 The Dishonored Student: Psychological Implications (3) Theory and research regarding rebellious, psychosocial behavior and appropriate interventions. Prerequisite: Consent of instructor.
406 Elementary and Middle School Mathematics Methods (3) Methods for teaching mathematics in elementary and middle schools, including instructional development, selection and utilization of materials, teaching of problem solving, and other general factors related to classroom management. Prerequisite: Admission to Teacher Education Program, F, Sp.

407 Elementary and Middle School Science Methods (3) Development of instructional methods and resources for teaching elementary school science; unit planning, pacing, and evaluation. Prerequisite: Admission to Teacher Education Program, F, Sp.

410 Pre-Internship Seminar (1) Objectives and policies of the internship program. Must be completed the semester prior to the semester of student teaching. Satisfactory/No Credit only. Sp.

419 Teaching Laboratory (3) Learning and practicing classroom teaching skills through actual classroom teaching experiences. Prerequisites: Admission to Teacher Education Program. Coreq: 410. Sp, Su.


435Compressible Flow (3) One-dimensional internal flow; analysis of shocks; entropy, equations of state, entropy, and Mach number; inviscid flow. Prereq: 362, ME 341, ECE 301. F, Sp.

436 Aerospace Engineering Instrumentation and Control (3) Fundamentals of measurement systems: standards; dynamic characteristics of electronic systems; statistical data treatment; transducers; signal conditioning; computers and digital systems. Prereq: ESM 215. F.

438 Teaching Science Grades 7-12 (3) Methods, materials, and practices for teaching science in the upper elementary and lower secondary schools. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. Sp.

442 Observational Solar Astronomy (3) Observational procedures for teaching of oracy (listening and speaking) and aspects of literacy (reading process and content and curricula overview. Emphasis will be given to unit planning, pacing, evaluation, etc., as well as to selection and utilization of instructional materials. Prerequisite: Admission to Teacher Education Program, F, Sp.

455 Teaching of Foreign Language, Grades 7-12 (3) Methods, materials, and practices for teaching foreign language in grades 7-12, including curricular development, selection and utilization of instructional materials, teaching of speaking, reading, writing, listening, and culture study. Prereq: Admission to Teacher Education Program, E.

461 Introduction to Instructional Computing (3) Classification and use of computers applications for teaching, overview of computer operation and software for teachers of all grade levels. F.

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

481 Internship I: Grades 7-12 (3-6) Methods of instruction, classroom management, and evaluation of instructional materials. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp.

482 Internship II: Grades 7-12 (3-6) Demonstration of professional competence in planning, instruction, and classroom management. Internship is completed in local public schools. Prereq: 481 and admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp.

484 Teaching Foreign Languages, Grades 7-12 (3) Development of instructional methods and resources for teaching Foreign Language and culture; instructional development, selection and utilization of instructional materials, teaching of speaking, reading, writing, and culture study. Prereq: Admission to Teacher Education Program, E.

485 Teaching of Mathematics, Grades 7-12 (3) Development of instructional methods and resources for teaching mathematics in grades 7-12, including curricular development, selection and utilization of instructional materials, teaching of speaking, reading, writing, and culture study. Prereq: Admission to Teacher Education Program, F.


426 Introduction to Aerospace Design (2) Design process, synthesis, safety, reliability, product liability, economic analysis, optimization, design team management. Designed for graduate students. Prereq: 395, 370, 383, Mech. Eng. E. 344, F.

429 Aerospace System Design (4) Synthesis and design of a complete aerospace system including economic and political implications. Projects permit teamwork and reports on current research and design progress. Prereq: 426, 425, 50.

431 Mechanical Engineering/Aerospace Engineer- ing Design (3) Overview of product design processes and applications. Focus on design principles and case studies. Prereq: 395, 370, 383, Mech. Eng. E. 344, F.

449 Aerospace Engineering Laboratory (3) Design and implementation of test series of experimental exercises. Test standards and specifications. Analysis of test and comparison with theoretical predictions. 3 hours laboratory per week. Prereq: 434, 231, 251.

450-490 Selected Topics in Aerospace Science (1-4) Current problems and topics in aerospace science. Prerequisites vary with the topic. May be repeated to credit. Prereq: Mathematics 231.


481 Chemical Engineering Data Analysis (3) Analysis of experimental data: methods, computer applications, analysis of variance, linear and multiple regression models. Prerequisites: Mathematics 231, 340. Summer session.

485 Introduction to Optimization (3) Principles and applications of optimization techniques to chemical engineering problems. Various topics in applications of optimization methods to chemical processes. Prereq: 480, 340. Summer session.

491 Chemical Engineering Laboratory II (3) Laboratory work associated with mass transfer and chemical reaction phenomena in chemical engineering. Prereq: 470, 251.
471 Introduction to Structural Design (3)
Selection of rolled structural steel beams, design of structural steel methods; use of computer in structural analysis. Prereq: 361.

472 Steel Design (3) Design of plate girders and composite beams; consideration of members subjected to combined axial stress of design of a typical framed building including connections. Prereq: 461.

474 Reinforced Concrete Structures (2) Reinforced concrete columns, beams, and slabs, columns with combined longitudinal and transverse reinforcement. 3 hours, 1 lab. Prereq: 361.

453 Airport/Railroad Planning and Design (3) Airport layout and design. Railroad capacity, geometrics and system layout and design. Prereq: 210, 251, 352.

452 Traffic Engineering (3) Characteristic of driver, vehicle, and roadway and their interrelationships; traffic studies; basic considerations of traffic circulation and control, lighting, capacity analysis, roadway safety analysis and design. Prereq: 210, 251, 352.

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


410 Land Surveying (3) Procedures of locating property; evidence; procedures to describe the property; to convey land; dividing; to prepare plats; laws of land surveying. Prereq: 210.

490 Special Topics (1-3) Recent developments and current practice in civil and environmental engineering through field internship and/or self-study. Prereq: Completion of all technical courses union year. Prereq: Consent of instructor.

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

395 Hydrology (3) Concept of hydrologic cycle; weather patterns; precipitation measurement and distribution; abstraction; and groundwater flow. Prereq: 390.

390 Water Resources Project Design (3) Environmental impact of water resources development alternatives, including water supply, wastewater, and recreational uses. Prereq: 390, 395.


393 Hydrology and Water Resources (2) Surface water resources development alternatives; statistical analysis of climate data; analysis for planning and operation of water resources projects. Prereq: 390, 395.

392 Water Resources Development and Management (2) Environmental impact of water resources development alternatives, including water supply, wastewater, and recreational uses. Prereq: 390, 395.

385 Water Resources Project Design (3) Environmental impact of water resources development alternatives, including water supply, wastewater, and recreational uses. Prereq: 390, 395.

384 Water Resources Project Design (3) Environmental impact of water resources development alternatives, including water supply, wastewater, and recreational uses. Prereq: 390, 395.

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312 Water Resources Project Design (3) Environmental impact of water resources development alternatives, including water supply, wastewater, and recreational uses. Prereq: 390, 395.

311 Water Resources Project Design (3) Environmental impact of water resources development alternatives, including water supply, wastewater, and recreational uses. Prereq: 390, 395.


435 Digital Audio and Video Processing (3) Digital and analog audio and video systems, including signal processing, data compression, and multimedia applications. Includes digital audio and video applications. Design content: 2 hours. Prereq: 321.


438 Computer Vision (3) Theoretical and practical aspects of computer vision. Includes image processing, feature extraction, and machine learning. Design content: 2 hours. Prereq: 321.

439 Computer Aided Design (3) CAD systems, including computer-aided design (CAD) systems, computer-aided manufacturing (CAM) systems, and computer-aided engineering (CAE) systems. Design content: 2 hours. Prereq: 321.

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

441 Communication Systems I (3) Probability, random variables, and random processes as applied to communications systems. Analog modulation and the baseband transmission of narrowband signals. Design content: 2 hours. Prereq: 321.


443 Antennas and Propagation (3) Linear antennas, arrays, and other simple antennas. Antenna gain, impedance, efficiency, and directivity. antenna feeders, matching techniques, and microwave systems. Design content: 2 hours. Prereq: 321.

444 Introduction to Fusion Energy II (3) High temperature plasma physics relevant to fusion plasmas, principles of fusion reactors, and engineering and physics constraints on fusion reactors. Design content: 2 hours. Prereq: 321.


449 Plasma Physics Laboratory (3) Laboratory experiments in plasma physics, including plasma diagnostics and plasma heating techniques. Design content: 2 hours. Prereq: 321.


452 Project-oriented using a microcomputer kit having a microprocessor and peripheral devices. Includes laboratory experiments and project design. Design content: 2 hours. Prereq: 321.


454 Computer Aided Design (3) CAD systems, including computer-aided design (CAD) systems, computer-aided manufacturing (CAM) systems, and computer-aided engineering (CAE) systems. Design content: 2 hours. Prereq: 321.


459 Computer Aided Design (3) CAD systems, including computer-aided design (CAD) systems, computer-aided manufacturing (CAM) systems, and computer-aided engineering (CAE) systems. Design content: 2 hours. Prereq: 321.

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


463 Introduction to Fusion Energy I (3) Hightemperature plasma physics relevant to fusion plasmas, principles of fusion reactors, and engineering and physics constraints on fusion reactors. Design content: 2 hours. Prereq: 321.

464 Introduction to Fusion Energy II (3) Continuation of Introduction to Fusion Energy I. Includes theory and design of tokamak reactor, tokamak magnetic confinement concepts, tokamak reactor technology, plasma engineering, and fusion reactor design studies. Includes design project which integrates material in 463 and 464. Design content: 1 hour. Prereq: 321.

465 Introduction to Fusion Energy I (3) Hightemperature plasma physics relevant to fusion plasmas, principles of fusion reactors, and engineering and physics constraints on fusion reactors. Design content: 2 hours. Prereq: 321.


467 Plasma Physics Laboratory (3) Laboratory experiments in plasma physics, including plasma diagnostics and plasma heating techniques. Design content: 2 hours. Prereq: 321.


472 Introduction to Digital Image Processing (3) Image processing, including image enhancement, restoration, and segmentation. Includes digital techniques for image processing. Design content: 2 hours. Prereq: 321.


477 Plasma Physics Laboratory (3) Laboratory experiments in plasma physics, including plasma diagnostics and plasma heating techniques. Design content: 2 hours. Prereq: 321.


482 Introduction to Plasma Physics (3) Principles of plasma physics and their applications to fusion and materials processing. Design content: 2 hours. Prereq: 321.


487 Plasma Physics Laboratory (3) Laboratory experiments in plasma physics, including plasma diagnostics and plasma heating techniques. Design content: 2 hours. Prereq: 321.
421 Informational Systems 1(3) Systems engineering: Environment factors that affect work such as temperature, human factors problems, Instrumentation and analysis of messy data. Prerequisite: 300 and senior standing or consent of instructor.


410 Predetermined Time Systems (2) Work design and measurement using predetermined time systems such as Methods Time Measurement. Basic Motion Study Time. Work Faster. Theory and application. Prerequisite 302.


412 Quantitative Methods in Project Management (2) Project planning techniques, including PERT, CPM, crashing and scheduling. Computer applications in project management. Prerequisite: 302.

413 Research Methods in Industrial Engineering (3) Methods to collect and analyze data as related to industrial engineering. Proving and proving of time studies, single subject experimental designs, classical experimental designs, and factor analyses. Validity and reliability concepts as related to measurement and collection of data. Strategies to control consistent circumstances such as randomization, matching, control of extraneous variables, and other strategies that aid in hypothesis testing. Selection of appropriate experimental designs for given research situations and analysis of archival data. Prerequisites: 300 and senior standing. Prerequisite 301.

415 Laboratory and Methodology in Human Factors Engineering (3) Human factors in the design and operation of human-machine systems. Interaction of human factors in industrial systems. Instrumentation and measurement of human factors. Prerequisites: 302, senior standing. Prerequisite 302.

420 Industrial Engineering Problems Analysis (3) Application of Industrial Engineering to field situations in local organizations, including problem definition, analysis and presentation of solutions. Prerequisite 402, 403 and 406.


440 Total Quality Management (4) The philosophy of continuous improvement in organizations involving the commitment and involvement of all employees, identification and analysis of systems as compared to process analysis and improvement: brainstorm, pareto charts, fishbone diagrams, the seven new tools: problem solving and critical thinking, waste minimalization, quality circles, quality of design, seven new tools: problem solving, quality circles, direct measurement, seven new tools: problem solving, quality circles, direct measurement, seven new tools: problem solving, quality circles, direct measurement. Course contains a lab component to provide hands-on experience. Prerequisites: 400 and senior standing or consent of instructor.

444 Special Topics in Industrial Engineering (3) Recent developments in Industrial Engineering relating to new areas of application, new techniques and methodologies. May be repeated once. Prerequisites: Senior Standing and consent of instructor.

ENGINEERING MATERIALS SCIENCE (638)

301 Introduction to Materials Science and Engineering (3) Correlation of atomic, structural, crystal, structural and microstructure of solids with mechanical, physical, and chemical properties of engineering significance. Prerequisite: Chemistry 150.


303 Diffusion and Phase Transformations (3) Diffusion in solids, the diffusion equation, point defects, and dislocations. Introduction to the metallurgy of phase equilibria, kinetics, and morphology. Phase transformations. Prerequisite 302, Physics 311.

304 Mechanical Behavior of Materials (3) Tensile testing of metals, ceramics, and polymers. Deformation mechanisms in the various materials. Fatigue, creep, fracture, fatigue behavior; stress-strain curves, stress-strain curves, stress-strain curves, stress-strain curves. Prerequisite: 302, Physics 311, or consent of instructor."
301 Seminar (1) Engineering professionalism and co-operative planning. Prerequisite: Consent of instructor. Satisfactory/No credit. Prereg: Junior standing in ESM.


312 Mechanical Behavior of Materials (3) Same as Materials Science 322.


318 Computer-Aided Engineering (2) Analysis and design of beams, singularity functions, energy methods, thick-walled pressure vessels, inelastic bending and torsion, and strength of failure and fatigue. Prereq: 321 and Materials Science 322. (Same as Materials Science 341.)


322 Mechanics of Materials II (3) Analysis and design of beams, singularity functions, energy methods, thick-walled pressure vessels, inelastic bending and torsion, and strength of failure and fatigue. Prereq: 321 and Materials Science 322. (Same as Materials Science 341.)

323 Mechanical Behavior of Materials (3) Same as Materials Science 322.

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


330 Research in Mechanical Engineering (2) Research (4-0). The student is engaged in a laboratory project of his choosing. Prereq: 321 and Materials Science 322. (Same as Materials Science 341.)


340 Project in Design (3) Conceptualization, analysis, design, and construction of engineering systems; energy methods, and basic experimental techniques. Prereq: Senior standing in ESM. 301, 321, 331, 341. Coreq: Mathematics 344.


351 Experimental Stress Analysis (3) Theory, technique, and instrumentation of investigating strain gauge, strain rosettes and full-field strain measuring methods; introduction to other strain measuring devices. 2 hours and laboratory. Prereq: 331, 335, 341.

352 Phenomenology (3) Photomechanics, photoelasticity, and interferometry. Prereq: 331, 335, 341. (3 credits; 4 hours and laboratory.) Prereq: 321, Physics 252.


417 Biomechanics (4) Development of mathematical models of living tissues; biomechanics of injury; mechanical properties or biological materials and their development; theoretical and practical aspects of biomechanical problems. Prereq: enrollment in one of the following courses: Biomechanics 232, Biomedical Engineering 232, or Biomedical Engineering 233. Coreq: Mathematics 241.

425 Principles of Nondestructive Testing (3) Principles of nondestructive testing methods. Non-destructive testing of materials and structures. Prereq: 321 and Materials Science 322. (Same as Materials Science 425.)

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


435 Computational Mechanics (3) Integration of fundamental physical laws, mathematical methods and computer techniques necessary to develop engineering design capabilities. Prereq: Mathematics 241. Coreq: 321.


437 Project in Design (3) Conceptualization, analysis, design, and construction of engineering systems; energy methods, and basic experimental techniques. Prereq: Senior standing in ESM. 301, 321, 331, 341. Coreq: Mathematics 344.

442 Fluid Mechanics II (3) Applications of the basic laws of fluid dynamics; compressible flow, isentropic flow, shockwaves; central force motion; Lagrange's equations; stability; transfer functions. Prereq: 321 and Materials Science 322. (Same as Materials Science 442.)

443 Transport Phenomena I (3) Life Support Systems (3) Application of mass, momentum, and heat transport theory to the design and operation of life support systems. Prereq: 431 and Mathematics 344.


505 Writing Workshop II (1) Self-paced Writing Center workshop to assist students with improving their beginning skills for English 102. Individual conferences. Prereq: 102. A, B, C, NC grading.


516 English Composition II (3) Expository writing course: at least one in-class essay examination and 3000 words of writing outside the classroom.

518 Honors English Composition (3) Expository writing course: at least one in-class essay examination and 3000 words of writing outside the classroom.

521 British Literature I: Beowulf through Johnson (3) Development of American literature from its beginnings to the time of the Civil War. Prereq: 207 or 208. Coreq: English 221. Coreq: 101.3 hours outside the classroom.


523 Literature of the Western World I: Ancient, Medieval, and Renaissance (3) Enriched section of 231 designed for students with a 3.25 or higher GPA.

524 Literature of the Western World II: Enriched section of 232 designed for students with a 3.25 or higher GPA.

525 Literature of the Western World: The Present (3) Enriched section of 233 designed for students with a 3.25 or higher GPA.

526 Honors Literature of the Western World: The Present (3) Enriched section of 233 designed for students with a 3.25 or higher GPA.

527 Honors Literature of the Western World: The Present (3) Enriched section of 233 designed for students with a 3.25 or higher GPA.

528 American Literature I: Colonial to the Civil War (3) Development of American literature from the beginning of the Civil War to the present. Writing emphasis: course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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

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

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

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

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

534 Honors Introduction to Poetry (3) Enriched section of 231 designed for students with a 3.25 or higher GPA.

535 Introduction to Poetry (3) Poetry as a distinct form of literature and as distinctive form of art. Emphasis on the study and practice of reading poems. Writing emphasis: course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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

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

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

539 American Literature II: Colonial to the Civil War (3) Enriched section of 232 designed for students with a 3.25 or higher GPA.
233 Introduction to Fiction (3) Fiction from the eighteenth through the twentieth centuries, emphases on the novel. Critical tools necessary for judging works of fiction. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

258 Honors Introduction to Drama (3) Enriched section of 252 designed for students with a 3.5 or higher GPA.

263 Introduction to Creative Writing (3) Practice in writing poetry and a fiction, control with study of meters and techniques, gathering of growing material at least one in-class essay examination and 3000 words of writing outside the classroom.

268 Honors Introduction to Fiction (3) Enriched section 253 designed for students with a 3.5 or higher GPA.

269 Introduction to Foundations of the English Language (3) Phonological, morphological, and syntactic characteristics of major social and regional varieties of American English, with attention to contrastive pluralism. Prerequisite: 371 or 372 or Linguistics 200 or consent of instructor.

272 American English (3) Phonological, morphological, and syntactic characteristics of major social and regional varieties of American English, with attention to contrastive pluralism. Prerequisite: 371 or 372 or Linguistics 200 or consent of instructor.

301 British Culture to 1660 (3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

303 British Culture to 1789 (3) British literature in the context of parallel developments in art, architecture, music, and social and intellectual history. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

306 Romantic Poetry and Prose 1 (3) Emphasis on poetry and fiction of the early nineteenth century, including Romanticism. Bibliography: Wordsworth, Coleridge, and Blake, with readings from Hazlitt, Lamb, De Quincey, and other prose writers.


332 Women in American Literature (3) Women as writers and as subjects of American literature from its beginning to the present. (Same as Women's Studies 422.)

334 Film and American Culture (3) American films as a reflection of American society. (Same as American Studies 442.)

335 American Humor (3) Development of American humor from colonial period into the twentieth century, including frontier humorists, local color writers, and southern literary Renaissance.

338 Modern American Novel (3) Authors such as Joyce, Curnin, Kula, Nabokov.


350 American Realism and Naturalism (3)

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

359 American Novel Before 1900 (3) From earliest times to Melville and Cooper, and major figures to 1900, including Hawthorne, Melville, Cooper, Defoe, Thoreau, and James.

363 Modern American Poetry (3) Authors such as Faulkner, Steinbeck, Wolfe.

365 Southern Literature (3) Southern writing from the colonial period into the twentieth century, including frontier humorists, local color writers, and southern literary Renaissance.

369 American Humor (3) Development of American humor from colonial period into the twentieth century, including frontier humorists, local color writers, and southern literary Renaissance.

370 British Culture to 1789 (3) British literature in the context of parallel developments in art, architecture, music, and social and intellectual history. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

372 The Structure of Modern English (3) Survey of works of literary criticism. (Same as English/Courses of Instruction 410.)

373 The Eighteenth-Century British Novel (3) The Eighteenth Century Achievement.

374 Teaching English as a Second or Foreign Language (3) Teaching English as a second or foreign language to native speakers with some attention to contrastive pluralism. Prerequisite: 371 or 372 or Linguistics 200 or consent of instructor.

375 Modern American Drama (3) O'Neill's works as provocative to modern dramatists, such as William, Miller, Albee, and representatives of Black theater, like Bullins and Baraka.

376 The Eighteenth-Century British Novel (3) The Eighteenth Century Achievement.

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

386 Modern American Drama (3) O'Neill's works as provocative to modern dramatists, such as William, Miller, Albee, and representatives of Black theater, like Bullins and Baraka.

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

404 Twentieth-Century International Novel (3) Such authors as Joyce, Curnin, Kula, Nabokov.

407 bacon's } 1654-1660. Representative works by Shakespeare's contemporaries (e.g., Marlowe, Webster, Jonson, etc.)

408 Milton, Donne and his contemporaries (3) Principal achievements in prose and poetry of the first two-thirds of the seventeenth century (such as Milton, Donne, Marvell, the Metaphysicals, Bacon, Wotton).

410 Restoration and Eighteenth-Century Poetry and Prose (3) Dramatic comedy, affective tragedy, and exemplary drama.


412 Modern British Novel (3) Includes such authors as Joyce, Curnin, Kula, Nabokov.

413 The Eighteenth-Century British Novel (3) The Eighteenth Century Achievement.

414 Romantic Poetry and Prose 1 (3) Emphasis on Wordsworth, Coleridge, and Blake, with readings from Hazlitt, Lamb, De Quincey, and other prose writers.


417 Victorian Poetry and Prose 2 (3) Emphasis on authors such as Tennyson, the Pre-Raphaelites, Christina Rossetti, and Mrs. Gaskell.

420 Modern British Poetry (3) Emphasis on the works of major British poets such as Auden, Eliot, and Yeats.

421 Modern British and American Drama (3) O'Neill's works as provocative to modern dramatists, such as William, Miller, Albee, and representatives of Black theater, like Bullins and Baraka.

423 American Realism and Naturalism (3)

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

425 American Novel Before 1900 (3) From earliest times to Melville and Cooper, and major figures to 1900, including Hawthorne, Melville, Cooper, Defoe, Thoreau, and James.

426 Modern American Poetry (3) Authors such as Faulkner, Steinbeck, Wolfe.

427 Southern Literature (3) Southern writing from the colonial period into the twentieth century, including frontier humorists, local color writers, and southern literary Renaissance.

428 American Humor (3) Development of American humor from colonial period into the twentieth century, including frontier humorists, local color writers, and southern literary Renaissance.

429 Modern British Drama (3) O'Neill's works as provocative to modern dramatists, such as William, Miller, Albee, and representatives of Black theater, like Bullins and Baraka.

430 Twentieth-Century International Novel (3) Such authors as Joyce, Curnin, Kula, Nabokov.

431 Persuasive Writing (3) Persuasive strategies in student and professional writing. Preparation in effective logical and emotional appeals.

432 Business and Technical Writing (3) Principles and practice of writing for publication. Preparation in effective logical and emotional appeals.


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

435 American Novel Before 1900 (3) From earliest times to Melville and Cooper, and major figures to 1900, including Hawthorne, Melville, Cooper, Defoe, Thoreau, and James.

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

437 Contemporary American Literature (3) Such authors as Joyce, Curnin, Kula, Nabokov.

438 Advanced Fiction Writing (3) Development of skills acquired in basic Writing Fiction course. Preparation in effective logical and emotional appeals.

439 Social Linguistics (3) Language in relation to society and historical period. English as a language of emigration, trade, and government who need technical writing skills. Preparation in effective logical and emotional appeals.

440 Advanced Fiction Writing (3) Development of skills acquired in basic Writing Fiction course. Preparation in effective logical and emotional appeals.

441 Teaching English as a Second or Foreign Language (3) Teaching English as a second or foreign language to native speakers with some attention to contrastive pluralism. Prerequisite: 371 or 372 or Linguistics 200 or consent of instructor.


444 Advanced Fiction Writing (3) Development of skills acquired in basic Writing Fiction course. Preparation in effective logical and emotional appeals.

445 Teaching English as a Second or Foreign Language (3) Teaching English as a second or foreign language to native speakers with some attention to contrastive pluralism. Prerequisite: 371 or 372 or Linguistics 200 or consent of instructor. (Same as Language 471 and Sociology 471.)

446 Advanced Fiction Writing (3) Development of skills acquired in basic Writing Fiction course. Preparation in effective logical and emotional appeals.
476 Teaching English as a Second or Foreign Lan-
guage (3) Theories of second language acquisition and issues in teaching this four skill language to students of Eng-
lish. Materials and methods of teaching language with emphasis on preparation of instructional materials. Ob-
serve and participate in classes with experienced staff. Prereq: 474. (Same as Linguistics 475.)

483 British and American Riddle and Folklore (3) Popular tales and legends of English, Scottish, and North American backgrounds.

481 Studies in Folklore (3) Topic varies. May be re-
peted; maximum 6 hours. Talk 4.

482 Major Authors (3) Content varies. Concentra-
tion study of at least one of the most influential works in British or American literature, e.g., Giono, Tem-
ny, Jane Austen, Millikan, Faulkner, Betwain or Lawrence. Prereq: Consent of instructor.

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

484 Special Topics in Writing (3) Original writing inte-
rated with reading and discussion of current works. Prereq: Consent of instructor. Upperclass man.

485 Special Topics in Language (5) May be repeated. Maximum 6 hours with consent. Talk 4.

486 Special Topics in Criticism (3) Content varies. Special topics in critical and intellectual approach to British and American literature. May be repeated with consent of department. Talk 6.

487 Special Topics in Film (2) Content varies. Parma-
ticular divisions, films, cross-cultural experiences, or topical issues. May be repeated with consent of depart-
ment. Maximum 6 hours. (Same as Cinema Studies 489.)

489 Foreign Study (1-18) Seminar, studying, and writing about areas as performed in London, Stratford-upon-
Avon, and New York City.

490 Seminar (1-18) Topics not adequately covered in regular courses. May be repeated with consent of instructor.

491 Senior Honors Paper (3) for (but not limited to) students with a 3.2 or better GPA. This is an individual tutorial in which the student prepares and writes a document on a creative or critical topic that is more substantial than what can be accomplished in a standardized research course. The director of Undergraduate Studies in English for details.

ENTOMOLOGY AND PLANT PATHOLOGY (341)

500 Forest Protection (3) Biological, economic and legal considerations of forests, wildlife, vegetation, and the environment. Prereq: 75. One or more one or two onefield trips may be required. 6 hours and 1 lab. Talk 3.

503 Plant Pathology (3) Principles of plant pathology illustrated by diseases of common agricultural crops plants. Prereq: 75. Bioagriculture Science 2. Hours and 1 lab. Talk 3. (Same as Biology 303.)

510 Economic Entomology (1) Structure, life histo-
ry, habits and principles of control of important pests of farm, garden ornamental and house plants. Prereq: 75. Hours of Bioagriculture Science 2. Talk 3. 1 lab. Talk 3. 505 Veterinary Entomology (2) Identification, biology, and control of arthropods that attack major livestock species. Emphasis is given to entomology, methods of aiased control, major pest species groups and parasites associ-
ated with specific husbandry operations. Prereq: Bioagriculture Science 122 or equivalent. 2 hours and 1 lab. Talk 1.

535 Marine Entomology (3) Field work in marine entomology. Insects and their effects on marine environment and their role as disease vectors. Prereq: Consent of instructor.

543 Financial Management (3) Principles of financial management. Investment, financing and asset management

541 Special Topics (3) \( \text{Talk} \) 5.

542 Investment Analysis (3) Principles and concepts and principles and techniques in investment in corporate and government financial markets. Basic analytical and valuation and use of different types of securities. May be repeated with consent of instructor. Talk 6.

543 Portfolio Analysis and Management (2) Portfolio theory and evidence of behavior of security returns with a view to determining optimal investment strategy. Only in-


550 Financial Management: Theory and Practice (3) Building blocks in financial management, includ-
ing capital budgeting under uncertainty, cost of capital, capital structure theory and dividend policy. Major writing requirement.

551 Risk Management and Insurance (3) Identification, measurement and decision making with regard to insurance risks facing the firm. Emphasizes han-
ting these risks in the most cost efficient manner.

552 Estate and Financial Planning (3) Process of estate accumulation, succession and distribution, with a focus on the implications of each process on Federal and State estate tax law. Talk 6.


555 Food Market Development (3) Analysis of food market and use. Examination of current food problems to the food industry. Talk 6.

556 Meat Products Technology (3) Principles and methods of evaluation on product characteristics. Prereq: 556 or consent of instructor. 3 hours and 1 lab. Talk 3.

557 Food Microbiology (3) Techniques and applications of food microbiology. Prereq: Consent of instructor. Talk 3.

558 Cereal Science and Bakery Products (3) Chemistry and technology of processing cereal grains. Prereq: Consent of instructor. Talk 3.

559 Food Processing Technology (3) Principles and methods of evaluation on food products. Effect of processing methods on product characteristics. Prereq: 559 or consent of instructor. 3 hours and 1 lab. Talk 3.

560 Food Chemistry I (3) Fundamental and application to food products. Prereq: Chemistry 100, 110, Microbiology 1. 2 hours and 1 lab. Talk 1.

561 Food Chemistry II (3) In-depth study of food chemistry with emphasis on food chemistry. Prereq: Bioagriculture Science 2. 2 hours and 1 lab. Talk 1.

562 Environmental Microbiology (3) Topics of current concern to the food industry. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

563 Meat Products Technology (4) Processing meth-
ods and applications of food products. Thorough study of food products. Prereq: 563 or consent of instructor. 4 hours and 1 lab. Talk 3.

564 Cereal Science and Bakery Products (3) Chem-
istry and technology of processing cereal grains. Prereq: 564 or consent of instructor. Talk 3.

565 Independent Study (1-15) Specialized study in an area of interest under faculty direction. Prereq: 565 or consent of instructor. Talk 3.

566 Food Chemistry I (3) Fundamental and application to food products. Prereq: Chemistry 100, 110, Microbiology 1. 2 hours and 1 lab. Talk 1.

567 Food Chemistry II (3) In-depth study of food chemistry with emphasis on food chemistry. Prereq: Bioagriculture Science 2. 2 hours and 1 lab. Talk 1.

568 Environmental Microbiology (3) Topics of current concern to the food industry. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

569 Meat Products Technology (4) Processing meth-
ods and applications of food products. Thorough study of food products. Prereq: 563 or consent of instructor. 4 hours and 1 lab. Talk 3.

570 Independent Study (1-15) Specialized study in an area of interest under faculty direction. Prereq: 570 or consent of instructor. Talk 3.

571 Forestry (3) Fundamental and application to food products. Prereq: Chemistry 100, 110, Microbiology 1. 2 hours and 1 lab. Talk 1.

572 Environmental Microbiology (3) Topics of current concern to the food industry. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

573 Meat Products Technology (4) Processing meth-
ods and applications of food products. Thorough study of food products. Prereq: 563 or consent of instructor. 4 hours and 1 lab. Talk 3.

574 Independent Study (1-15) Specialized study in an area of interest under faculty direction. Prereq: 574 or consent of instructor. Talk 3.

575 Forestry (3) Fundamental and application to food products. Prereq: Chemistry 100, 110, Microbiology 1. 2 hours and 1 lab. Talk 1.

576 Environmental Microbiology (3) Topics of current concern to the food industry. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

577 Meat Products Technology (4) Processing meth-
ods and applications of food products. Thorough study of food products. Prereq: 563 or consent of instructor. 4 hours and 1 lab. Talk 3.

578 Independent Study (1-15) Specialized study in an area of interest under faculty direction. Prereq: 578 or consent of instructor. Talk 3.
414 French Literature of the 19th Century (3) French Romanticism and its counterparts, Romantisme, Positivism, and Naturalism. Prerequisites: 212, 218 or equivalent.

415 French Literature of the 20th Century (3) Examinations in French literature from 1914 to the present. Prerequisites: 212, 218 or equivalent.

419 Survey of Francophone Literatures (3) Introduction to writing in French outside of France. Prerequisites: 212, 218 or equivalent.

420 Reading in French Literature (3) French cinema (The) French cinema from its earliest days through the New Waves directors. Prerequisites: 212, 218 or equivalent. Can be applied to major. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

421 Phonetics (3) The science of phonetics and the study of phonetic phenomena and phonetic principles. Prerequisites: 342 or 345. Can be applied to major. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

425 Introduction to Descriptive Linguistics (3) Phonological, morphological, and syntactic observations of typical languages, languages in contact, dialects, and dialect contact. Application of descriptive linguistics in theory and practice. Prerequisites: 342, 425, Russian 425, Spanish 425, and Linguistics 425.

426 Methods of Historical Linguistics (3) Same as German 425, Russian 425, Spanish 425 and Literature of the United States and Canada. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

431 Readings in American Literature (1-3) In-depth examination of a special topic in American literature. Meets two hours a week for one semester credit. Prerequisites: 342 or 345.

433 Literary Portraits of French Women (3) Problems, trends and organization of French society and its cultural traits of the area. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

441 Urban Geography (3) Concepts, theories and practices in economic geography. Emphasis on the area to the south of the Sahara. (Same as Russian and East European Studies 375) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

445 Geography (415) (415) Deflect historical topics, including world regions, especially those with problems or relationships to contemporary events. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

450 Independent Study (1-15) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

461 French Cinema (3) The French cinema from its earliest days through the New Waves directors. Prerequisites: 212, 218 or equivalent. Can be applied to major. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

473 Geography of South America (3) Physical, natural, and economic characteristics of the countries of South America. (Same as Latin American Studies 375.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

477 Geography of the Soviet Union (3) (477) Conceptual and functional approaches to their regional and economic assessment, economic patterns, and human resource. (Same as Russian and East European Studies 375.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

479 Geography of Africa (3) Physical, cultural, and economic characteristics of Africa, with particular emphasis on the area south of the Sahara. (Same as African Studies 375.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

480 Off-Campus Study (1-15) (480) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

490 Independent Study (1-15) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

493 Independent Study (1-15) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

499 Course Work (1-15) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

499-433 Advanced Conversation (1) Informal conversa- tion with native speakers on contemporary themes. (Same as German 433.) Prerequisites: 342, 345. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

499-323 Advanced Conversation (1) Intermediate conversation with native speakers on contemporary themes. Students must earn a grade of A to advance to the next course. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

499-342 Advanced Conversation (1) Advanced conversation with native speakers on contemporary themes. Students must earn a grade of A to advance to the next course. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.
443 Regional Geology of the United States (3) Evolution of geological provinces within the United States with emphasis on the formation of various types of geological plays. Prereq: 305, 345, 370. 3 lecture hours. 1 laboratory hour.

453 Process Geomorphology (3) Integrative approach to the development of the surface of the Earth based upon case studies in natural and artificial landscapes. Prereq: 101-102. (Same as Geology 453.)

463 Basic Environmental Geology (3) Applications of the geological sciences toward a comprehensive understanding of major geological processes on and below the Earth's surface. Emphasis on the relationship between basic atomic structure and distribution and behavior of elements in the Earth's crust. Prereq: Geology 320. 2 lecture hours and one 2-hour lab period.

486 Principles of Economic Geology (3) Ore-forming processes, classification of mineral deposits, surveying of different types of mineral deposits with emphasis on volumetric calculations. Prereq: 480. 3 lecture hours and one 2-hour lab period.

491 Principles of Geoscience (3) Application of problem solving and logical thinking to geological problems. Emphasis on the development of a logical, systematic, and scientific approach to the study of the physical and biological processes of the Earth and its history. Prereq: Geology 320. 2 lecture hours and one 2-hour lab period.

497 Applied Geophysics (3) Principles and applications of seismology, gravimetry, and electrical methods of exploration. Prereq: Math 141-142 or 141-143 and Physics 130-131. 2 lecture hours and one 2-hour lab period.

501 Darwin, Dinosaurs, and Extinctions: An Introduction to Evolution (3) Theories and evidence of evolutionary change. Opportunity to examine and collect fossils. May not be applied toward the Geology major.

502 Earth as Our Environment: Modern Problems and Solutions (3) Human interactions with Earth. Focus on current environmental issues, the Earth's energy systems, and climate change. Prereq: None. 3 lecture hours and one 2-hour lab period.

503 Geology of National Parks (3) Geologic spec- troscopy, chemical analysis, and field methods used in the study of Earth's history as exemplified by national parks of the West. Human impacts on Earth and the effects of Earth's geological processes on human life during the 20th century. May not applied toward the Geology major.

506 Field Geology (6) Summer field course for advanced undergraduates and graduate students. Topics covered vary each summer. Prereq: 102, Botany 310-320 or consent of instructor. 3 lecture hours and one 2-hour lab.

510 Mineralogy (4) Comprehensive analysis of mineralogy, petrology, and economic geology as applied to major rock types and their potential economic value. Prereq: 310. 3 lecture hours and one 2-hour lab.

511 Petrologic Modes of Change (3) Petrologic studies of metamorphic and igneous rocks. Emphasis on petrographic and chemical properties of minerals, stable and unstable isotope systems, and trace elements. Prereq: 202 or consent of instructor.

540 Environmental Geology (3) The environment as a system of interacting natural processes. Emphasis on human interaction with Earth systems and management of natural resources. Prereq: 330. 3 lecture hours and one 2-hour lab.

541 Advanced Mineralogy (3) Crystal chemistry of Earth-forming minerals. Formation of igneous rocks. Emphasis on the development and behavior of crystal chemistry in igneous processes. Prereq: Geology 320. 3 lecture hours and one 2-hour lab.
German to New High German. Internal and external lin-
ung and graduate reading courses. (Same as Linguistics
426, Spanish 426, and Linguistics 426.)
419 Foreign Study (1-15)
420 Off-Campus Study (1-15)
430 Independent Study (1-15)
430 Selected Readings (1-15) 6000 words of writing
for credit. May be repeated. Maximum 9 hours.

GREEK
121-122 Beginning Greek (2.5) Must be taken in se-
quential order. Prereq: 416.
210 Intermediate Greek: Grammar Review and Read-
ings (2) Systematic review of Attic Greek and reading
from selected authors. Prereq: 216.
212 Intermediate Greek: New Testament and Early
Christian Literature (3) Selected readings from the
341 Greek Poetry (3) Epic, lyric, drama. Author varies.
Prereq: 221.
342 Greek Prose (3) History, philosophy, and oratory.
Authors vary. Prereq: 221.
425-430 Selected Readings from Greek Literature
(3) For advanced students in Greek, the study of origi-
nal Greek. May be repeated for credit. Maximum 9 hours.
Prereq: 425-430 on consent of instructor.

HEALTH (449)
110 Personal Health and Wellness (3) Information and
skills to implement basic cardiac life support following
the problems and pitfalls ofperiodization.

470 Special Topics (1-3) For advanced students, teach-
ing and evaluating journal articles and research papers.
Courses in translation or graduate reading courses
(3). May be repeated for credit. Maximum 9 hours.
485 Business German (3) German used in fields of
business, government, administration and economics.
Prereq: 9 hours of upper-division German electives.
translating, methodology, and evaluation. F
325 Health Education Program Planning (3) Prin-
cipals ofquiz or written examination, and 3000 words of
writing outside of class.
331-332 Elements of German for Upper-Division and
Graduate Students (3) Elements of language, ele-
mentary and advanced readings and a 8 hour 500 word
composition test in class essay examination and 3000
words of writing. (Same as Linguistics 325.)
365 German Drama in English Translation (3) Ger-
man drama from the Enlightenment to the present,
including study of dramatic theory and criticism. No
credit for students who have completed 301 or 302. May
be repeated only once for credit. A,B,C, no credit grading.

392 Modern German Culture (3) German culture from
the eighteenth to the twentieth century to the present, with
emphasis on the problems of modernization, industrializa-
tion and communications. May not be taken for credit. F, Summer.

411-412 Advanced Conversation and Composition
(3,3) Prereq: 311-310 or equivalent or consent of in-
ductor.
420 Selected Topics in German Literature from 1750
Prereq: 411-412 Advanced Conversation and Compo-
nation. May not be taken for credit. Writing emphasis.
writing outside of class.
425-430 Selected Readings from Greek Literature
(3) For advanced students in Greek, the study of origi-
nal Greek. May be repeated for credit. Maximum 9 hours.
Prereq: 425-430 on consent of instructor.

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writing outside of class.
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(3) For advanced students in Greek, the study of origi-
nal Greek. May be repeated for credit. Maximum 9 hours.
Prereq: 425-430 on consent of instructor.

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(3,3) Prereq: 311-310 or equivalent or consent of in-
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420 Selected Topics in German Literature from 1750
Prereq: 411-412 Advanced Conversation and Compo-
nation. May not be taken for credit. Writing emphasis.
writing outside of class.
425-430 Selected Readings from Greek Literature
(3) For advanced students in Greek, the study of origi-
nal Greek. May be repeated for credit. Maximum 9 hours.
Prereq: 425-430 on consent of instructor.

110 Personal Health and Wellness (3) Information and
skills to implement basic cardiac life support following
the problems and pitfalls ofperiodization.

470 Special Topics (1-3) For advanced students, teach-
ing and evaluating journal articles and research papers.
Courses in translation or graduate reading courses
(3). May be repeated for credit. Maximum 9 hours.
485 Business German (3) German used in fields of
business, government, administration and economics.
Prereq: 9 hours of upper-division German electives.
259 Modern Europe, 1750-1914 (3) Political, industrial and social developments; social theory; topics such as the modern population explosion, urbanization, social structures, the family, nationalism, liberalism, rationalism, and the transformation of the European nation-state. Lectures and discussions. Emphasis on at least one in-class essay examination and 3000 words of writing outside the classroom.

260 Contemporary Europe, 1920-2000 (3) The history of the postwar era. Topics include: economic dislocation and insecurity, political centralization, intellectuals' skepticism, the origins of modern science, and the modern world. Interrelationship of cultural, social, economic, political and intellectual developments, with an emphasis on history and culture.


272 Christian Thought (3) Same as Religious Studies 274.

273 History of England (3,3) 373-374 English history from the late Middle Ages to the present. Medieval, feudal, church, and society; origins of Anglo-Saxon law, the monarchy and parliaments; the Reformation, the 17th Century, the Commonwealth, civil and military conflict, the welfare state, world wars, economic crisis.

275-276 History of France (3,3) The development of France from the Renaissance to the present. Lectures and discussions. Emphasis on at least one in-class essay examination and 3000 words of writing outside the classroom.


279-280 History of the Middle East (3,3) 379-380 The Middle East from ancient times to the present. Topics include: the rise and fall of empires, the growth of Islam, the Crusades, the Ottoman Empire, the rise of nationalism, and the contemporary Middle East.

281-282 African History (3,3) 381-382 The history of Africa from the Stone Age to the present. Topics include: the rise of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

283-284 History of the Far East (3,3) 383-384 The history of the Far East from ancient times to the present. Topics include: the rise of empires, the growth of Islam, the spread of Buddhism, the impact of European colonization, and the challenges of post-colonial development.

285-286 History of Latin America (3,3) 385-386 The history of Latin America from ancient times to the present. Topics include: the rise of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

287-288 History of the United States (3,3) 387-388 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

289-290 History of the Soviet Union and Eastern Europe (3,3) 389-390 The history of the Soviet Union and Eastern Europe from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

291-292 History of the United States, 1600-1865 (3,3) 391-392 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

293-294 History of the United States, 1865-1945 (3,3) 393-394 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

295-296 History of the United States, 1945-Present (3,3) 395-396 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

297-298 History of the United States, 1600-1865 (3,3) 397-398 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

299-300 History of the United States, 1865-1945 (3,3) 399-400 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

301-302 History of the United States, 1945-Present (3,3) 301-302 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

303-304 History of the United States, 1600-1865 (3,3) 303-304 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

305-306 History of the United States, 1865-1945 (3,3) 305-306 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

307-308 History of the United States, 1945-Present (3,3) 307-308 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

309-310 History of the United States, 1600-1865 (3,3) 309-310 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

311-312 History of the United States, 1865-1945 (3,3) 311-312 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

313-314 History of the United States, 1945-Present (3,3) 313-314 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

315-316 History of the United States, 1600-1865 (3,3) 315-316 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

317-318 History of the United States, 1865-1945 (3,3) 317-318 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.

319-320 History of the United States, 1945-Present (3,3) 319-320 The history of the United States from ancient times to the present. Topics include: the development of agriculture and urbanization, the development of complex societies, the impact of European colonization, and the challenges of post-colonial development.
Diplomacy and warfare in Europe and Asia and the
social and its armed forces. (Same as Military
History of American Foreign Relations (3) Rise of
United States from weak nation to global power. Ideol-
one in-class essay exam in American foreign policy,
modern and modern warfare, culminating in the World
from the 18th century to the present .

449 History of Tennessee (3) Tennessee's history
upheaval 1920's-30's; present nature of American cul-
ture; Civil War as cultural conflict; challenge of race
from Reconstruction through the Second Reconstruc-
tion. Writing-emphasis course: at least one in-class
exam in American history.

441 The American Frontier and Western Movements,
From the Atlantic to the Trans-Mississippi
West (3) Settlement and development of the "West"
cultural elements, From the Atlantic to the Trans-
Mississippi (3) Settlement and development of the "West"
cultural elements, From the Atlantic to the Trans-

421 Comparative Studies in African and Afro-Ameri-
can History (3) African-American consciousness,
the history and culture of African-Americans as a
people, and their contributions to American society.

420 Indian-White Relations in United States History
(3) Contacts between the aboriginal peoples of North
America and the European colonists through the
19th century.

444 History of the South (3,3) 445 Old South from
abolition period through the Civil War. 446 New South
from Reconstruction through the Second Reconstruc-
tion.

446 The Afro-American Experience from the Coloni-
ization Period to the Present (3) Topics in 17th and 18th
century Afro-American history, and the role of slavery
in the evolution of American society. (Same as African
American Studies 446-

447 History of the United States (3) The cultures and
colonial history of the United States, colonial and
revisionist perspectives.

475 Studies in Latin American History (3) Variable
content. Significant issues in Latin American history.

476 Studies in Asian History (3) Variable content.
Perspectives on Asia, including China, Japan, Korea,
India, and Southeast Asia.

470 Studies in British History (3) Variable content.
European cultural, economic, and political influences
on Britain, from the Renaissance to the 20th century.

430-431 European Intellectual and Cultural History
(3,3) European civilization from the Renaissance to
Romanticism to Relativism, 1750-Present.

428-429 History of the Modern West (3,3) The histo-
ry of the United States from 1800 to the present,
focusing on major social, economic, and political
changes in American society.

427 History of the Middle East (3) The history of the
Middle East from ancient times to the present, with a
focus on political and cultural developments.

426 Women in American History (3) Approaches of
women to political, social, and economic life in American
society. (Same as Women's Studies 433.)

432 Apartheid and resistance in South Africa. May be re-
peated. Maximum 9 hours.

480 Studies in African History (3) Variable content.
African history, including issues related to colonialism,
and economic development under colonialism to social
and political changes in modern Africa. Topics include
Apartheid and resistance in South Africa. May be re-
peated. Maximum 9 hours.

481 Studies in History (3) Variable content. May be re-
peated. Maximum 9 hours.

479 Studies in United States History (3) Variable con-
tent. May be repeated. Maximum 9 hours.

474 Studies in Medieval and Early Modern European
History (3) Variable content. May be repeated.
Maximum 9 hours.

473 Studies in Eastern European History (3) Variable
content. May be repeated. Maximum 9 hours.

471 Studies in Western European History (3) Van-
ni content. May be repeated. Maximum 9 hours.

467 Studies in Asian History (3) Variable content.
May be repeated. Maximum 9 hours.

466 Studies in African History (3) Variable content
in African history, including issues related to colonialism,
and economic development under colonialism to social
and political changes in modern Africa. Topics include
Apartheid and resistance in South Africa. May be re-
peated. Maximum 9 hours.

461 The Mexican Frontier and Westward Movement,
imperial and in modern Europe. May be repeated.
Maximum 9 hours.

460 Latin American History (3) Variable content.
May be repeated. Maximum 9 hours.

459 History of the United States (3) Variable content.
May be repeated. Maximum 9 hours.

458 History of the United States (3) Variable content.
May be repeated. Maximum 9 hours.

457 American Intellectual and Cultural History
(3) The history of the United States from 1800 to the
present, with a focus on major social, economic, and political
changes in American society.

456 The American Frontier and Westward Move-
ment (3) Settlement and development of the "West"
cultural elements, From the Atlantic to the Trans-
Mississippi (3) Settlement and development of the "West"
cultural elements, From the Atlantic to the Trans-

455 Studies in Latin American History (3) Variable
content. Significant issues in Latin American history.

454 Studies in Asian History (3) Variable content.
Perspectives on Asia, including China, Japan, Korea,
India, and Southeast Asia.

453 Studies in African History (3) Variable content.
African history, including issues related to colonialism,
and economic development under colonialism to social
and political changes in modern Africa. Topics include
Apartheid and resistance in South Africa. May be re-
peated. Maximum 9 hours.

452 African History (3) Variable content.
Different cultures of the African continent and their
impact on the modern world, focusing on post-
colonial issues and African perspectives.

451 European Intellectual and Cultural History
(3) European civilization from the Renaissance to
Romanticism to Relativism, 1750-Present.

450 History of the Modern West (3) The histo-
ry of the United States from 1800 to the present,
focusing on major social, economic, and political
changes in American society.

449 History of Tennessee (3) Tennessee's history
upheaval 1920's-30's; present nature of American cul-
ture; Civil War as cultural conflict; challenge of race
from Reconstruction through the Second Reconstruc-
tion. Writing-emphasis course: at least one in-class
exam in American history.

448 History of the United States (3) The cultures and
colonial history of the United States, colonial and
revisionist perspectives.

447 History of the United States (3) The cultures and
colonial history of the United States, colonial and
revisionist perspectives.

446 The Afro-American Experience from the Coloni-
ization Period to the Present (3) Topics in 17th and 18th
century Afro-American history, and the role of slavery
in the evolution of American society. (Same as African
American Studies 446-

445 Old South from abolition period through the Civil War. 446 New South from Reconstruction through the Second Reconstruc-
tion.

444 History of the South (3,3) 445 Old South from
abolition period through the Civil War. 446 New South
from Reconstruction through the Second Reconstruc-
tion.
103 PE Major: Tennis (1) Development of skills: rules and game strategies in terms applying skills and varied styles of teaching.

104 PE Education Major: Gymnastics I (1) Beginning skills in tumbling and on selected men’s and women’s gymnastic apparatus. Tumbling skills include forward, backward, and hand springs. Apparatus include vault, bar, balance beam, and pommel horse. Special emphasis on learning techniques, progressing, and evaluating.

105 PE Major: Soccer (1) Basic skills of soccer with tactical considerations that influence the performance of the game.

260 Practicum I (1-3) First practicum experience to support and clarify career goals. May be repeated. Prerequisite: Consent of instructor and progression to the major.

272 PE Major: Volleyball (1) Elementary and intermediate volleyball skills, general rules, and strategy related to the game of volleyball with emphasis on skill development and tactical development.

276 Fitness for Life (2) Evaluation and planning of fitness activities. Emphasis on evaluation of current status with recommendations for change toward reasonable health-related goals.

275 PE Major: Ballroom Dance (1) Basic ballroom dance patterns and designs, terminology and etiquette with application to the various techniques of teaching.

292 Field Studies I (2) Peerteaching, using selected styles, and systematic observation of motor behaviors of physical education students in elementary, middle, and high school settings. Prerequisite: 100.

314 Coaching of Gymnastics (1) Fundamentals used in the coaching and judging of competitive men’s and women’s gymnastics. Emphasis on the scoring of competitive gymnastics skills. Prereq: Consent of instructor.

315 Coaching of Baseball/Softball (1) Theoretical and practical application of various coaching techniques in baseball/softball for the secondary school coaches. Topics include analysis and selection of appropriate game plans, specific conditioning and training programs, game organization, player evaluation, coaching, individual and team offense and defensive strategies.
**Admission to Teacher Education Program**

Coreq: 421, development of instructional skills from HPSS 292 and is designed for students who wish to pursue a career in education. May be repeated for a maximum of 3 hours. Prereq: Consent of instructor.

**441 Human Services Field Work I (8)** Practical field experiences in appropriate organized and directed human service settings. Develops specialized skills, acquaints participants with various roles and responsibilities of service providers, and provides direct services in a supervised learning setting. For majors only. Prereq: Consent of instructor. Coreq. 420, Field Work II (8, 12). Satisfactory/No Credit only. Sp

**450 Special Topics in Human Services (3)** Topics in human services, such as issues related to therapy, legal and ethical responsibilities, and social work education. May be repeated for a maximum of 9 hours. Prereq: Consent of instructor. Sp

**451 Foreign Study (1-15)**

**452 Off-Campus Study (1-15)**

**453 Independent Study (1-15)**

**INTERDISCIPLINARY PROGRAMS (270)**

**491 Foreign Study (1-15)**

**492 Off-Campus Study (1-15)**

**493 Independent Study (1-15)**

**INTERDISCIPLINARY PROGRAMS (270)**

**494 Directed Independent Studies (1-3)** Independent study in a specialized area with physical education. May be repeated for a maximum of 9 hours. Prereq: Consent of instructor. Coreq. 420, Field Work II (8, 12). Satisfactory/No Credit only. Sp

**495 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.

**496 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.

**INTERIOR DESIGN (582)**

**493 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.

**INTERIOR DESIGN (582)**

**494 Directed Independent Studies (1-3)** Independent study in a specialized area with physical education. May be repeated for a maximum of 9 hours. Prereq: Consent of instructor. Coreq. 420, Field Work II (8, 12). Satisfactory/No Credit only. Sp

**495 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.

**INTERIOR DESIGN (582)**

**496 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.

**INTERIOR DESIGN (582)**

**493 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.

**INTERIOR DESIGN (582)**

**494 Directed Independent Studies (1-3)** Independent study in a specialized area with physical education. May be repeated for a maximum of 9 hours. Prereq: Consent of instructor. Coreq. 420, Field Work II (8, 12). Satisfactory/No Credit only. Sp

**495 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.

**INTERIOR DESIGN (582)**

**496 Independent Study (1-15)** Acceptable for credit in any cultural studies concentration or minor except African-American studies. Registration by consent of director of cultural studies and the respective chairperson.
310 Survey of Interior Design (3) Planning and organiz-
ing interior spaces; indices, apartments, residence complexes to new personal and family housing needs, relation of furnishings to architectural space. Not open to interior design majors. Enrollment preference given to Economics Education and to Interior Decoration Minor students. A, Sp.

315 Hospitality Interiors (3) Planning and organizing interior spaces for restaurants and lodging facilities, assisted living and care facilities, and institutional spaces. Open only to Interior and Restaurant Administration majors. F Sp.

340-350 Intermediate Interior Design I, II (4, 4) Studio problems of intermediate complexity, integrates various previous knowledge of aesthetics, color, materials and sources, and design methods, explores organization and planning of micro and macro environments. Course may be taken in sequence. Coreq: Third year standing in interior design. F, Sp.

350 Practicum Seminar I (1) Orientation to prag-
matism, employment, responsibilities, and requirements. Must be completed immediately preceding enrollment in A, Sp.


370 History of Interior Architecture (3) Interior archi-
tecture, decoration and decorative arts within cultural context, emphasis upon the interrelation between these fields and materials. Coreq: Preterm 400 or consent of instructor. F.

390 Proseminar I (3) Analysis of visual behavior, emphasis on the historical development of planning environment. Coreq: Preterm 400 or consent of instructor. A, Sp.

407 Environment as Code (3) Apparent theoretical issues in environment as a medium of human communica-

417 Honors: Interior Design I, II (4) Advanced research activities for honors students in interior design. Prereq: 460 or 450 and fourth year in Interior Design. F.

420 Practicum for Interior Design (1) Supervised ex-
ternships in a professional design firm; business prob-
s, interviewing, research and development, design and planning majors. Coreq: Preterm 400. Coreq: Fourth year standing in Interior Design. Sp.

450 or 451 Introductory Latin: Vergil's Aeneid (3) Prereq: 152 or equivalent.


490 Advanced Latin: Vergil's Aeneid (3) Prereq: 252 Intermediate Latin: Vergil's Aeneid (3) or equivalent. Coreq: Preterm 400 or consent of instructor. F.

491 International Study (1-15) Students in the Inter-
ior Design I, II, III may take up to 4 units of Interna-
tional Study after two years experience in the field. Prereq: 493 or consent of instructor. F, Sp.

492 Field Experience (1-2) Approved internships and/or study abroad; academic research, field-in-
vestigation, or thesis opportunities. May be repeated for 6 credits total. Prereq: 493 or approval of instructor. F, Sp.

493 Directed Studies in Interior Design (1-6) Student and/or staff initiated research or studio investigation of spe-
cial topics. Credit only. May be repeated. Maximum 8 hours. Prereq: Consent of instructor.

ITALIAN (584)


130 Communication Strategies (3) Oral and written practice in the visual aspects of conversation. Emphas-
es: fundamental grammar, vocabulary, pronunciation, reading, writing, translation, and oral exercises in the four skills. Prereq: 212 or equivalent.

134-132 Intermediate Grammar, Composition and Conversation (3) Grammatical analysis of Italian sentence structure, review of grammatical principles and their application to the translation from English into Italian and oral exercises in free composition. Prereq: 212 or equivalent.

301 Dante and Medieval Culture (2) Introduction to the significance of the great Italian writers. Coreq: Coreq: Preterm 400 or consent of instructor. A, Sp.

310 Feature Writing (3) Skillsofjournalism forwriting feature articles for newspapers, magazines and com-
pany publications, with emphasis on precise word use and oral expressiveness. Prereq: 212 or equivalent.

311-312 History of Italian Literature (3, 3) Chronologi-
cal development of Italian literature in relation to the specific his-
torical developments that have influenced it. Coreq: Preterm 212 or equivalent.

402 Petrarch and Boccaccio (3) Prereq: 212 or con-
sent of instructor. Coreq: Coreq: Preterm 400 or consent of instructor. F.

401 Modern Italian Poetry (3) Prereq: 212 or consent of instructor. Coreq: Coreq: Preterm 400 or consent of instructor. A, Sp.

403-404 Literature of the Renaiss-
cence (3) From the emergence of the Renaissance to the high baroque. Prereq: 212 or consen-
t of instructor. Coreq: Coreq: Preterm 400 or consent of instructor. F, Sp.

460 Mass Communications History (3) Development of mass communications through the years. Coreq: Coreq: Preterm 400 or consent of instructor. F, Sp.

490 Advanced Photojournalism (3) Advanced prin-
ciples and practice in the visual aspects of communication. Includes news, features, portrait, and documentary photography, printing and production techniques and publi-
cation design. Prereq: 490 or consent of instructor. F.

491 Foreign Study (1-15) Students in the Inter-
ior Design I, II, III may take up to 4 units of Interna-
tional Study after two years experience in the field. Prereq: 493 or consent of instructor. F, Sp.

493 Independent Study (3) May be repeated for a maximum of 8 credit hours. Prereq: Consent of instructor.


503 Print Media Management (3) Current business prob-
ses among print media, especially newspapers, magazines, and commercial and institutional publications. Prereq: 490 or consent of instructor. F, Sp.

504 Advanced Editing (3) Primary focus is on sensiv-
ity, grammar, style, and language to maintain the highest stan-
dards in the printed word. Prereq: 361, 203, or equivalent. Prereq: 203, or consent of instructor. F, Sp.

505 Communications Graphics (3) Principles and practice of design and use of graphics for print, radio, and television. Prereq: 201, or equivalent. Prereq: 202 or consent of instructor. F, Sp.

510 Journalism in the High School (3) Functions and processes of high school publications. Prereq: 201, or equivalent. Prereq: 202, or consent of instructor. F, Sp.

520 Public Relations Campaigns (3) Research, plan-
ning and execution of a public relations campaign. Prereq: 360, or consent of instructor. F, Sp.

520 Field Experience I-2) Approved internships and/or study abroad; academic research, field-investigation, or thesis opportunities. Prereq: 493 or consent of instructor. Sp.

520 Advanced Photojournalism (3) Advanced prin-
ciples and practice of black and white photography. In-
struction in color photography, shooting, editing, and design. Prereq: 491 or consent of instructor. F, Sp.


611-112 Beginning Latin (3)2) Must be taken in se-
squence.

611 Latin Grammar (3) Grammar of the Latin lan-
duage, study of Latin vocabulary, grammar, syntax, and de-
corative Latin sentences. Open only to students with two years of Latin in high school or one year college Latin. Must be taken in sequence. Language Laboratory required.

612-113 Intermediate Latin (3)2) Oral and written practice in the visual aspects of conversation. Emphas-
es: fundamental grammar, vocabulary, pronunciation, reading, writing, and oral exercises in the four skills. Prereq: 212 or equivalent.

630 Practicum Seminar II (1) Orientation to prag-
matic employment, responsibilities, and requirements. Must be completed immediately preceding enrollment in A, Sp.


690 Advanced Latin: Vergil's Aeneid (3) Prereq: 252 Intermediate Latin: Vergil's Aeneid (3) or equivalent. Coreq: Preterm 400 or consent of instructor. F.

693 Independent Study I (3) May be repeated for a maximum of 8 credit hours. Prereq: Consent of instructor.
Exponents, graphing, second degree equations.

Mathematics (641)

100 Intermediate Algebra (3) First degree equations and inequalities, polynomials, rational expressions, exponentials, graphing, second degree equations and inequalities, systems of equations, introduction to exponential and logarithmic functions. The course is designed to prepare students for enrollment in Mathematics 130, 195. 100. Course does not satisfy graduation requirements. A, B, C, NC grading.

110 Algebraic Reasoning (3) A course in the application of elementary mathematics to the modern world. Includes applications in financial mathematics, consumer mathematics, and other areas. Students registration for 110 must have taken 110 or 110. Two years of algebra and one year of geometry or other satisfactory placement test score on Math 100. This course should not be taken to fulfill an entrance requirement.

115 Statistical Reasoning (3) An introduction to probability and statistics without calculus. Not available for credit to students in the College of Business Administration. This course is designed to provide a one year of both algebra and geometry or other satisfactory placement test score on Math 100. It should be taken to fulfill an entrance requirement.

110 Precalculus A 2 (3) A review of algebraic functions, equations, and complex numbers for students who satisfy the course prerequisites for 141 or 119. Students registration for 110 must have taken 110 or 110. Two years of algebra and one year of geometry and other satisfactory placement test score on Math 100. Students who have received a grade of C or better in another course numbered 121 or higher may subsequently receive credit for 121. Two years of algebra and one year of geometry and other satisfactory placement test score on Math 119 or 130.

121 Calculus A 2 (3) Sequel to 121, including elementary multivariable calculus, infinite series, and applications. Students who have received a grade of C or better in another course numbered 121 or higher may subsequently receive credit for 121. Two years of algebra and one year of geometry and other satisfactory placement test score on Math 119 or 130.

141-142 Calculus I, II 4, 4 (Same as Mathematics 141-142) Standard first-year courses in calculus, usually for students of scientific, engineering, mathematics, and social science majors. Credit will not be given for both 141 and 119. Two years of algebra and one year of geometry or other satisfactory placement test score. Students who do not study prior to high school should enroll in trigonometry, usually simultaneously with 130.

141-142 Honors: Calculus I, II 4, 4 (Honors version) Designed for well-prepared students. Qualified students are usually invited to enroll, but inquiries from other qualified students will be considered. Students must also be registered in one of these two laboratories and should also register for the corresponding laboratory course.

141-142 Honors: Calculus I, II 4, 4 (Honors version) Usually for students who do not study prior to high school. Students are usually invited to enroll, but inquiries from other well-prepared students will be considered. Students must also be registered in one of these two laboratories, and should also register for the corresponding laboratory course.

141-142 Honors: Calculus I, II 4, 4 (Honors version) Usually for students who do not study prior to high school. Students are usually invited to enroll, but inquiries from other well-prepared students will be considered. Students must also be registered in one of these two laboratories, and should also register for the corresponding laboratory course.

151-152 Biocalculus I, II 3, 3 (Same as Mathematics 151-152) For students majoring in the life sciences. Topics from calculus of algebraic, logarithmic, and exponential functions. Students who have received a grade of C or better in another course numbered 121 or higher may subsequently receive credit for 121. Two years of algebra and one year of geometry, and other satisfactory placement test scores on Math 100. Course does not satisfy graduation requirements. A, B, C, NC grading.

110 Algebraic Reasoning (3) A course in the application of elementary mathematics to the modern world. Includes applications in financial mathematics, consumer mathematics, and other areas. Students registration for 110 must have taken 110 or 110. Two years of algebra and one year of geometry or other satisfactory placement test score on Math 100. This course should not be taken to fulfill an entrance requirement.

115 Statistical Reasoning (3) An introduction to probability and statistics without calculus. Not available for credit to students in the College of Business Administration. This course is designed to provide a one year of both algebra and geometry or other satisfactory placement test score on Math 100. It should be taken to fulfill an entrance requirement.

110 Precalculus A 2 (3) A review of algebraic functions, equations, and complex numbers for students who satisfy the course prerequisites for 141 or 119. Students registration for 110 must have taken 110 or 110. Two years of algebra and one year of geometry and other satisfactory placement test score on Math 100. Students who have received a grade of C or better in another course numbered 121 or higher may subsequently receive credit for 121. Two years of algebra and one year of geometry and other satisfactory placement test score on Math 119 or 130.

121 Calculus A 2 (3) Sequel to 121, including elementary multivariable calculus, infinite series, and applications. Students who have received a grade of C or better in another course numbered 121 or higher may subsequently receive credit for 121. Two years of algebra and one year of geometry and other satisfactory placement test score on Math 119 or 130.

141-142 Calculus I, II 4, 4 (Same as Mathematics 141-142) Standard first-year courses in calculus, usually for students of scientific, engineering, mathematics, and social science majors. Credit will not be given for both 141 and 119. Two years of algebra and one year of geometry or other satisfactory placement test score. Students who do not study prior to high school should enroll in trigonometry, usually simultaneously with 130.

141-142 Honors: Calculus I, II 4, 4 (Honors version) Usually for students who do not study prior to high school. Students are usually invited to enroll, but inquiries from other well-prepared students will be considered. Students must also be registered in one of these two laboratories, and should also register for the corresponding laboratory course.

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141-142 Honors: Calculus I, II 4, 4 (Honors version) Usually for students who do not study prior to high school. Students are usually invited to enroll, but inquiries from other well-prepared students will be considered. Students must also be registered in one of these two laboratories, and should also register for the corresponding laboratory course.
401 Applied Vector Calculus (3) Topics from multivari- ate and vector analysis including the surface integral, the divergence theorem and the theorems of Green’s and Stokes. Prereq: 241.

402 Models in Biology (3) Difference and differential equation models of biological systems. Prereq: 141-142 or 151-152.

411 Mathematical Modeling (3) Construction and analysis of mathematical models used in science and in- dustry. Projects emphasized. Prereq: 231, 241, and 251. Differential equation course at least one in-class essay examination and 3000 words of writing outside the classroom.

421 Combinatorics (3) Introduction to problems of con- struction and enumeration for discrete structures such as sequences, partitions, groups, finite fields and ge- ometry, and experimental designs. Prereq: 329 or consent of instructor.


433 Complex Variables I (3) Introduction to the theory of functions of a complex variable, including Cauchy's integral formula and the residue calculus. Prereq: 231, 241. (Same as Mathematics 371.)


441 Models in Biology (3) Difference and differential equation models of biological systems. Prereq: 141-142 or 151-152.

442 Models in Biology (3) Difference and differential equation models of biological systems. Prereq: 141-142 or 151-152.

443 Models in Biology (3) Difference and differential equation models of biological systems. Prereq: 141-142 or 151-152.


445-446 Advanced Calculus (I, II, 3 credits) Introduction to the basic concepts of mathematical analysis, including the theory of functions of a real variable. Prereq: 231, 241. (Same as Mathematics 371.)

447-448 Honors: Advanced Calculus (I, II) Honors version of 445-446. Prereq: Consent of instructor.


454 Introduction to Complex Analysis (3) Complex variables, functions of a complex variable, conformal mapping, residue calculus. Prereq: 371.

455-456 Abstract Algebra I, II (3, 3) Introduction to the theory, including the Jordan canonical form. Prereq: 351.


460 History of Mathematics (3) A historical approach to the development of mathematical concepts and methods. Prereq: Consent of instructor.

461 History of Mathematics (3) A historical approach to the development of mathematical concepts and methods. Prereq: Consent of instructor.


464 Geometry (3) Synthetic and coordinate approach to geometry, Euclidean and non-Euclidean geometry. Prereq: 141-142 or 151-152.

465 Topology (3) Includes topology of line and plane, connectedness, compactness, connectedness, continuous functions, homeomorphisms, continuity, and topological invariants. Prereq: 341 or consent of instruc- tor.


303-503 Small Jazz Ensemble (1,1) May be repeated.

301-501 Woodwind Choir (1,1) May be repeated.

495 Advanced Music Methods for Elementary Teachers (3-6) Prereq: Public Schools. Prereq: 481 and admission to Teacher Education.

370-570 Symphony Orchestra (1,1) May be repeated.

359-559 Marching Band (1,1) May be repeated.

342-542 Opera Workshop (1,1) May be repeated.

340-540 Opera Theatre (1,1) May be repeated.

334-534 Saxophone Choir (1,1) May be repeated.

332-532 Collegium (1,1) May be repeated.

330-530 Chamber Singers (1,1) May be repeated.

313-513 Synthesizer Ensemble (1,1) May be repeated.

MUSIC ENSEMBLE (708)

301-501 Woodwind Choir (1,1) May be repeated.

303-503 Small Jazz Ensemble (1,1) May be repeated.

301-501 Woodwind Choir (1,1) May be repeated.

495 Advanced Music Methods for Elementary Teachers (3-6) Prereq: Public Schools. Prereq: 481 and admission to Teacher Education.

370-570 Symphony Orchestra (1,1) May be repeated.

359-559 Marching Band (1,1) May be repeated.

342-542 Opera Workshop (1,1) May be repeated.

340-540 Opera Theatre (1,1) May be repeated.

334-534 Saxophone Choir (1,1) May be repeated.

332-532 Collegium (1,1) May be repeated.

330-530 Chamber Singers (1,1) May be repeated.

313-513 Synthesizer Ensemble (1,1) May be repeated.

310-510 Percussion Ensemble (1,1) May be repeated.

304-504 Jazz Ensemble (1,1) May be repeated.

MUSIC HISTORY (709)

180 History of Rock (3) Study and appreciation of rock and roll, its development, and its impact on society. Prereq: Consent of instructor.

240 Church Service Playing I (1) Practical skills applied to the use of the organ in church services, including harmonization, improvisation, and organ accompaniment. Prereq: Consent of instructor.

230 Keyboard Harmony I (3) Melodic harmony, figured bass, and keyboard reduction. Prereq: Theory 110-120. 220 studio piano class enrollment requirement, must be taken in sequence.

420 History and Literature in Jazz Drumming (2) Examination of major composers and performers who have contributed significantly to creation of principal styles of jazz drumming.

430 Special Topics in Pedagogy (1-3) Prereq: Consul- tant of department head. May be repeated多达 8 hours. Prereq: Consent of instructor.

490 Church Music Methods and Administration (3) Prereq: Consent of instructor.

340-350 String Literature I,II (2,2) Survey of string techniques, issues, research and pedagogies; topical presentations by the applied string faculty and guest presenters. Development of the violin, viola, and cello. Prereq: 340 and applied enrollment in strings at 300 level or above or consent of instructor.

110 Music Theory I (3) Fundamentals of the musical language, including terminology, chord symbols, chord inversions, and chord progressions, plus our training in music theory. Prereq: Theory 110.

120 Analysis of Jazz Styles (2) Individual improvisation studies through analysis of free from transcription. Improvisation in response to recording includes some from recordings and preparation of analysis. Prereq: 110.

130-140 Piano literature I,II (4,4) Harmonic language of jazz. Interpretation of chord symbols, formula for writing chords, and functional analysis and improvisation for right hand. Must be taken in sequence.

160 Studio Guitar Styles (2) Introduction to guitar styles and techniques practiced by jazz musicians. Prereq: Consent of instructor.

240 Church Service Playing I (1) Practical skills applied to the use of the organ in church services, including harmonization, improvisation, and organ accompaniment. Prereq: Consent of instructor.

230 Keyboard Harmony I (3) Melodic harmony, figured bass, and keyboard reduction. Prereq: Theory 110-120. 220 studio piano class enrollment requirement, must be taken in sequence.

420 History and Literature in Jazz Drumming (2) Examination of major composers and performers who have contributed significantly to creation of principal styles of jazz drumming.

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110 Music Theory I (3) Fundamentals of the musical language, including terminology, chord symbols, chord inversions, and chord progressions, plus our training in music theory. Prereq: Theory 110.
MUSIC THEORY (714)
110-120 Theory I, II (3,3) Materials of music including basic elements through and including common and modal. Exercises in writing and analysis of music.
interaction of body and mind. Biopsychosocial in- teractions of lifestyle and psychological factors for cardiovascular and malignant diseases, wellness potential, and potential longevity. Process of lifestyle changes will be facilitated by faculty. Open to non-nurse students in all categories.

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

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

212 Advanced Placement Credit: Care of the Child (3) By permission only. Satisfactory/No Credit only. Sp

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

401 Family Health Nursing (6) Nursing needs of fami- lies in health and illness. Examination of fami- lies to the childbearing and childrearing phases of family development. Application of theories of family development, family dynamics, and crisis intervention to the provision of health care to families. A systems perspective will be used to address the impact of historical and social factors. An emphasis on critical thinking, problem solving, and effective communication for families experiencing complex medical issues, including family members with physical and mental health impairments. Completion of the course qualifies for 30 CEU units. 5 lecture, 6 lab. Prereq: Senior standing or consent of instructor. 4.5, Sp

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

403 Community Health Nursing (6) Application of the nursing process to care of individuals, families, and groups in home and community settings with special emphasis on health promotion, disease prevention, and crisis intervention. Application of the nursing process to care of individuals and families in hospital settings. An emphasis on critical thinking, problem solving, and effective communication for patients experiencing complex medical issues, including patients with physical and mental health impairments. Completion of the course qualifies for 30 CEU units. 5 lecture, 6 lab. Prereq: Senior standing or consent of instructor. 4.5, Sp

450 Professional Nursing Seminar (2) Critical exami- nation of the role of the nurse in health care delivery systems. Examination of nursing practice and leadership and supportiveness of the relationships an influence on the practice of nursing. Historical, political, sociological, economic, and ethical issues will be examined. Open to junior and senior nursing students. Prereq: 300 level nursing courses. For non-nurse MSN students 2 lecture, 2 lab. Prereq: All 300 level nursing courses. F, Sp

404 Family Health Nursing Theory (3) Theorical component of 401. For RN's only. Prereq: 312, F, Sp

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

401 Family Health Nursing (6) Nursing needs of fami- lies in health and illness. Examination of fami- lies to the childbearing and childrearing phases of family development. Application of theories of family development, family dynamics, and crisis intervention to the provision of health care to families. A systems perspective will be used to address the impact of historical and social factors. An emphasis on critical thinking, problem solving, and effective communication for families experiencing complex medical issues, including family members with physical and mental health impairments. Completion of the course qualifies for 30 CEU units. 5 lecture, 6 lab. Prereq: Senior standing or consent of instructor. 4.5, Sp

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404 Family Health Nursing Theory (3) Theorical component of 401. For RN's only. Prereq: 312, F, Sp

213 Advanced Placement Credit: Care of Client with Mental Disorder (3) For registered nurses only. Satisfactory/No Credit only.
120 Foundations of Western Thought: Antiquity (through 1500) (3) Plato, Aristotle and the Medieval Period. Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom.

121 Foundations of Western Thought: Early Twentieth Century (Development of Radical- Left Emphasis) (3) Nineteenth and early twentieth-century philosophy. May be taken below 120. Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom.

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

123 Medieval Philosophy (3) Development of medieval philosophy in the Western tradition, including world views, natural theology, ethics, and metaphysics. May be repeated with different content. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

124 Advanced Turfgrass Management (4) Principles and scientific basis of turfgrass cultivation, ecology, physiology, soil biology, and disease control. Emphasis on influences of grass, physiology, clipping and watering management, construction, and maintenance. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

125 Plant Tissue Culture (3) (Same as Botany 451.) Principles and techniques of propagation, growth, and development for specialized plants and ornamental horticulture. Methods and techniques of micropropagation and cell culture. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

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

127 Modern Ethical Theory (3) Topics in meta-ethics, normative ethics, and applied ethics. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

128 Medieval Ethics (3) (Same as Medieval Studies 446.) Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom.

129 Nervous-and Endocrine Systems of Philosophy (3) Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom.

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

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

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

133 Medieval Philosophy (3) Development of medieval philosophy in the Western tradition, including world views, natural theology, ethics, and metaphysics. May be repeated with different content. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

134 Advanced Turfgrass Management (4) Principles and scientific basis of turfgrass cultivation, ecology, physiology, soil biology, and disease control. Emphasis on influences of grass, physiology, clipping and watering management, construction, and maintenance. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

135 Formal Logic (3) Introduction to formal deductive systems, propositional and predicate logic. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

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

137 Modern Ethical Theory (3) Topics in meta-ethics, normative ethics, and applied ethics. Prerequisites: Philosophy 120, 121, and Plant and Soil Science 310.

138 Medieval Ethics (3) (Same as Medieval Studies 446.) Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom.

139 Nervous-and Endocrine Systems of Philosophy (3) Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom.

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149 Nervous-and Endocrine Systems of Philosophy (3) Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom.

150 Critical Thinking (3) An introduction to practical reasoning in natural language, designed to enhance skills in analyzing, evaluating, and constructing arguments. Add to Basic Skills Requirement Mathematics, Computer Science or Logic.
for advanced undergraduate studies. Prereq: 232 and a basic knowledge of circuits.

471-2 Health Physics (3) Radiation interaction, interpretation of electromagnetic radiation with matter; radiation emission, measurement, and detection; ionization and nuclear activation; ionizing radiation's effect on matter; radiation protection; radiation therapy; radioactive waste disposal. Prerequisite: Chemistry 205 and Physics 201. F, S.

490 Senior Seminar (1-6) Topics of current interest. May be repeated with consent of department. Maximum 5 hours.

491 Foreign Study (3-15) Study in a particular country with faculty guidance. Arrangement of departure is required. Minimum 3 hours.

PLANNING (782)

480 The City in the United States (3) Development and planning with special attention to the United States experience in urban and non-urban settings. Prereq: BME 101. 4 hours and 1 lab. Sp-A

201 Introduction to Crop Science (3) Fundamentals of structure, classification, growth and reproduction of plants; the relationship of plants to the environment. Prereq: 1 hour and 1 lab. F-A

202 Soil Morphology (3) Intensive course involving descriptive, classifying, and interpreting soils in preparation for regional and national soil judging contests. Prereq: 201 and consent of instructor. May be repeated. F-A

211 Soil Fertility (3) Influence of soil properties on plant nutrient availability and uptake. Principles of fertilizer use and their reaction in soils. Prereq: 212 and 1 lab. F-A

212 Soil and Water Conservation (2) Hydrologic, agronomic, and engineering principles applied to soil conservation and flood control. Prereq: 211 and 1 lab. F-A

311Soil Chemistry (3) Dynamics of soil solution chemistry; description of soil solution chemistry. Prereq: 310 and consent of instructor. 2 hours and 1 lab. F-A

312 Soil Microbiology (3) Introduction to soil microorganisms and the role of microorganisms in soil processes. Prereq: 310. F-A

313 Soil Genesis, Classification and Mapping (3) Soil genesis: formation; classification and describing, mapping of soils; climatic factors and agricultural environments. Prereq: 15 and 1 lab. F-A

314 Soil Fertility (3) Influence of soil properties on plant nutrient availability and uptake. Principles of fertilizer use and their reaction in soils. Prereq: 310 and consent of instructor. 2 hours and 1 lab. F-A

315 Soil and Water Environment (3) Soil as an environmental component and non-properties affecting land use. Soil as a resource in development planning including non-growing aspects of site selection for land use, soil survey and monitoring in land use, soil pollution and prevention of soil pollution. Prereq: 310. F-A

316 Crop Physiology and Ecology (3) Plant physiology and ecological applied to crop production. Effects of environmental factors on physiological processes. Prereq: 315. 2 hours and 1 lab. Sp-A

317 Bioclimatology (3) Application of energy fluxes, energy transfers, interactions between, global, regional and local climates and biological systems. Qualitative and quantitative analysis of bioclimatic effects and their impact on biological systems. Prereq: 316. F-A

318 Principles of Plant Breeding (4) Genetic principles and techniques used in crop improvement. Prereq: 317 or consent of instructor. F-A

319 Statistical Biology (3) Analysis of agricultural science data and application of biological statistics. Prereq: 318 or consent of instructor. F-A

320 Crop Physiology and Ecology (3) Influence of environmental factors on physiological processes. Prereq: 316 or consent of instructor. F-A

321 Fruit Breeding (3) Fundamentals of fruit production and management. Crop improvement, rootstock selection, genotype improvement, selection for improved production characteristics. Prereq: 320 or 1 lab. F-A


323 Minor Group Politics in the United States (2) Content varies. May be repeated for credit with the consent of the department. Maximum 6 hours. Same as Urban Studies 322 (3-15)

324 Law in American Society (3) Law as a process through which social problems are addressed in the United States. Emphasis on case law, legislation, and administrative regulation. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.

325 Political Change in Developing Areas (3) Characteristic changes in political development and their impact on political systems and economic development. Same as Political Science 326 (3-15)

326 Political Change and Development (3) Choice and conflict in political system development. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.

327 Latin American Politics and Governments (3) Introduction to political and administrative management of Latin American systems. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.

328 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, performance, and impact on American society. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.

329 Introduction to International Relations (3) Introduction to concepts, theories, and research methods of international relations. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.

330 Political Change in Developing Areas (3) Choice and conflict in political system development. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.

331 Judicial Process (3) Court as components of political systems, and public policy formation through the court system. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.

332 Judicial Process (3) Court as components of political systems, and public policy formation through the court system. Writing emphasis course: at least one in-class essay examination and 5000 words of writing outside of the classroom.
tion to function of international law in the context of international conflict. Particular characteristics, bases, and interrelationships.

460 Revolution (3) Characteristics, theories, and consequences of revolution with particular focus on Latin American revolutions.

459 Government and Politics of the Soviet Union (3) Writing-emphasis course: at least one in-class essay examination and 3000 words of written outside the classroom.

456 Latin American Government and Politics 11 (3) Writing-emphasis course: at least one in-class essay examination and 3000 words of written outside the classroom.

455 Latin American Studies 455. Writing-emphasis course: at least one in-class essay examination and 3000 words of written outside the classroom.

445 Measurement and Testing (3) Theory of test construction and psychological measurement. Statistical techniques through supervised experience in small groups.

440 Organizational Psychology (3) Social-psychoanalytical and social factors in gender. Importance of gender in the design, conduct, and interpretation of research.

434 Psychology of Gender (3) Biological, psychological, and social factors in gender. Importance of gender in the design, conduct, and interpretation of research.

430 Health Psychology (3) Psychological factors related to behavior and experience. Behavior and Experience: Humanistic Psychology. (3) Behavioral and phenomenological analysis of individuals and their development in natural settings. Prerequisite: 100, 110, or equivalent.

429 Development of speaking, listening, and writing skills in Portuguese; some review of grammar. Prerequisite: 212 or equivalent.

428 Conversation and Composition (3) Development of speaking, listening, and writing skills in Portuguese; some review of grammar. Prerequisite: 212 or equivalent.

427 Fundamentals of Research in Psychology (3) Fundamentals of research, including design, measurement, and psychological tests. Prerequisite: 385.

426 Psychological and Psychological Measurement. Statistical techniques through supervised experience in small groups.

425 Psychology of Development (3) Psychology of knowing, explaining, and predicting behavior. Fundamentals of Research in Psychology. (3) Behavioral and phenomenological analysis of individuals and their development in natural settings. Prerequisite: 100, 110, or equivalent.

424 Laboratory in Psychology (2-3) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, 385, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

423 Directed Readings in Portuguese and (3) May be repeated with consent of instructor. (Same as Latin American Studies 431.)

422 Portuguese Language and Literature (3, 3) Intermediate Portuguese (3, 3) Stresses reading, writing, listening, and speaking skills in Portuguese.

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


410 Special Topics in Political Science (3) May be repeated with consent of department. Maximum 6 hours may be applied toward the major.

419 Social Psychology (3) Theories, methods, and findings of research on individual or group behavior in a social context. Prerequisite: 110 or equivalent, and 210 or equivalent.

385 History and Systems of Psychology (3) History of psychological thought Class assignments and recent developments. Prerequisite: 110, 210, 230, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

383 Laboratory in Psychology (4) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, 385, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

382 Measurement and Testing (3) Theory of test construction and psychological measurement. Statistical techniques through supervised experience in small groups. Prerequisite: 110 or equivalent, and 210 or equivalent. Consent of instructor may be required. Maximum 6 hours may be applied toward the major.

381 Social Psychology (3) Theories, methods, and findings of research on individual or group behavior in a social context. Prerequisite: 110 or equivalent, and 210 or equivalent.

380 Historical and Sociological Backgrounds to Psychology (3) Socio-cultural and socio-historical influences on psychological thought.

379 Laboratory in Human Motivation (3) Interpersonal relations and communication through structured interactions in small groups. Prerequisite: 110 or equivalent, and 210 or equivalent. Consent of instructor may be required. Maximum 6 hours may be applied toward the major.

378 Psychobiology (3) Sex differences, hormones, and sex-steroid effects. Prerequisite: 110 or equivalent, and 210 or equivalent.

377 Cognition and Psychology (3) Theories of perception, memory, and learning. Prerequisite: 110 or equivalent, and 210 or equivalent.

376 Methods of Research in Psychology (3) Fundamentals of research, including design, measurement, and psychological tests. Prerequisite: consent of instructor. May be repeated. Maximum 6 hours may be applied toward the major.

375 Psychology and Language (3) Language and communication in the context of language and communication in the context of human social interactions. Prerequisite: 110 or equivalent, 210, 230, and 660 or Mathematics 115, or equivalent.

374 Laboratory in Psychology (2-3) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, 385, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

373 Psychology and Language (2-3) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

372 Laboratory in Psychology (2-3) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

371 Laboratory in Psychology (2-3) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

369 Laboratory in Human Motivation (3) Interpersonal relations and communication through structured interactions in small groups. Prerequisite: 110 or equivalent, and 210 or equivalent. Consent of instructor may be required. Maximum 6 hours may be applied toward the major.

368 Social Psychology (3) Theories, methods, and findings of research on individual or group behavior in a social context. Prerequisite: 110 or equivalent, and 210 or equivalent.

367 Ethology and Sociobiology (3) Basic concepts in evolutionary approaches to human behavior, including analogies to psychology, the social sciences, and the arts. Prerequisite: 110 or equivalent.

366 Contemporary Topics in Psychology (3) Current issues in psychology, such as environmental psychology, technology of artificial intelligence, neuroendocrine research, or schizophrenia. Prerequisite: 110 or equivalent.

365 Psychology and Language (3) Language and communication in the context of human social interactions. Prerequisite: 110 or equivalent, 210, 230, and 660 or Mathematics 115, or equivalent.

364 Laboratory in Psychology (2-3) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

363 Psychology and Language (3) Language and communication in the context of human social interactions. Prerequisite: 110 or equivalent, 210, 230, and 660 or Mathematics 115, or equivalent.

362 Laboratory in Psychology (2-3) Introduction to research techniques used in the laboratory to study different topics in psychology, such as perception, memory, learning, and social behavior. Supervised experiences in the use of laboratory techniques, collection and interpretation of data. Different topics each semester. Prerequisite: 110 or equivalent, 210, 230, and 660 or Statistics 201, 385, or Mathematics 115, or equivalent.

361 Psychology and Language (3) Language and communication in the context of human social interactions. Prerequisite: 110 or equivalent, 210, 230, and 660 or Mathematics 115, or equivalent.

359 Laboratory in Human Motivation (3) Interpersonal relations and communication through structured interactions in small groups. Prerequisite: 110 or equivalent, and 210 or equivalent. Consent of instructor may be required. Maximum 6 hours may be applied toward the major.

358 Social Psychology (3) Theories, methods, and findings of research on individual or group behavior in a social context. Prerequisite: 110 or equivalent, and 210 or equivalent.

357 Ethology and Sociobiology (3) Basic concepts in evolutionary approaches to human behavior, including analogies to psychology, the social sciences, and the arts. Prerequisite: 110 or equivalent.

356 Contemporary Topics in Psychology (3) Current issues in psychology, such as environmental psychology, technology of artificial intelligence, neuroendocrine research, or schizophrenia. Prerequisite: 110 or equivalent.

355 Psychology and Language (3) Language and communication in the context of human social interactions. Prerequisite: 110 or equivalent, 210, 230, and 660 or Mathematics 115, or equivalent.
401 Physiological Psychology (3) Nervous system and behavior. Study of the nervous system and its role in behavior, including neurophysiology, the role of hormones in behavior, neural mechanisms, and learning. May be repeated. Maximum 12 hours in 401, 402, and 403 combined may be applied toward the major.

402 Research in Psychological Disorders (3) Experimental approaches to understanding psychological disorders and their treatment. May be repeated. Maximum 12 hours in 402, 403, 490, and 491 combined may be applied toward the major.

403 Independent Study (1-3) Prereq: Consents of instructor and major. May be repeated. Maximum 12 hours in 403, 490, 491, 492, and 493 combined may be applied toward the major.

404 Foreign Study (1-18) Prereq: Consents of instructor and major. May be repeated. Maximum 12 hours in 390, 490, 491, and 492 combined may be applied toward the major.

420 Internship (1-18) Prereq: Consent of instructor. May be repeated. Maximum 12 hours in 309, 409, 419, and 420 combined may be applied toward the major.

430 Senior Seminar: Theories of Learning (3) A seminar in the major field of learning. May be repeated. Maximum 6 hours. Prereqs: 310 and senior standing. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

431 Senior Seminar: Theories of Personality and Social Psychology (3) A seminar in the major field of personality and social psychology. May be repeated. Maximum 6 hours. Prereqs: Consent of instructor or senior standing. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

459 Comparative Animal Behavior Laboratory (3) Prereq: 290, 390, senior standing. Satisfactory/No Credit. Focuses on understanding concepts, principles, and specific scientific approaches appropriate to their particular social and cultural functions in religions.

469 Laboratory in Physiological Psychology (3) Lab and lecture. Study of nervous system and behavior. May be repeated. Maximum 12 hours in 469, 470, 489, 491, 492, and 493 combined may be applied toward the major.

480 Theories of Learning (3) Classical and current theories of learning, including operant conditioning. May be repeated. Maximum 12 hours in 480, 490, 491, 492, and 493 combined may be applied toward the major.

480 Special Topics (3) Prereq: Consent of instructor. May be repeated. Maximum 6 hours. Prereq: Minimum 12 hours in 480, 490, 491, 492, and 493 combined may be applied toward the major.

482 Topics in Psychology (3) Intensive analysis of specific topics, such as American Psychology or the history of psychology. Prereq: 211 or 212 and 6 credits in 211 or 212 in one area. May be repeated. Maximum 12 hours in 211 or 212 in one area. Prereqs: 210 and 2 credits in 211 or 212 in one area. May be repeated. Maximum 12 hours in 482 and 492 combined may be applied toward the major.

489, 490, 491, 492, and 493 combined may be applied toward the major.

489 Practicum in Recreation (1-3) Supervised practice in the major field of recreation or leisure services, either in a public agency or a private concern. May be repeated. Maximum 12 hours in 489, 490, 491, 492, and 493 combined may be applied toward the major. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

490 Practicum in Recreation (1-3) Supervised practice in the major field of recreation or leisure services, either in a public agency or a private concern. May be repeated. Maximum 12 hours in 489, 490, 491, 492, and 493 combined may be applied toward the major. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

490 Religious Aspects of Biblical and Classical Literature (3) Ways in which contemporary modes of religious expression and analysis of the study of religion. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

491 Religious Aspects of Modern Literature (3) Approaches to religion in culture and society, focusing on cross-cultural, cross-religious, and cross-disciplinary examination of religious texts and issues. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

492 Religious Aspects of Modern Literature (3) Approaches to religion in culture and society, focusing on cross-cultural, cross-religious, and cross-disciplinary examination of religious texts and issues. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

493 Practicum in Recreation (1-3) Supervised practice in the major field of recreation or leisure services, either in a public agency or a private concern. May be repeated. Maximum 12 hours in 489, 490, 491, 492, and 493 combined may be applied toward the major. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.
Christianity. Motivations and guiding concepts which led to the formation of the New Testament. Victory of the Christian Church over the forces of persecution and the Constantine settlement. (1-3 A.U.) (Same as History 321.) Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

223 Christianity Through (3) Prerequisite of Christian Thought and Institutions through the interrelation of Great Surveys in History is characterized by the influence of Hippo to Inman. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as History 322.)

226 Images of Jesus (3) Major portrayals of Jesus Christ from the first to the twentieth within the context of the cultural milieu, which gave birth to each. Excerpts of diverse, video materials, recordings, and literature.

230-231 Intermediate Hebrew (3, 3) Intermediate in reading, writing, and conversation in modern and classical Hebrew. Prerequisite: Hebrew 101. Prerequisite of Intermediate modern Hebrew and comprehensive knowledge of Jewish religious thought and traditions in America. (Same as American Studies 230.) Key readings: Bible, Talmud and other rabbinic literature. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

232 Religious Ethics (3) Selecting ethical theories and spiritual teachings of religious groups and religions, their actions or disciplines for individuals and groups. Their application to persons and social problems.

234 Professional Responsibility (3) (Same as Philosophy 344.)

235 Introduction to Religion in the United States (3) A representative profile of religion in the United States, organized around selected focal themes or problems.

236 Afro-American Religion in United States (3) Historical and critical examination of the development of Afro-American religious thought and religions in America. (Same as American Studies 236.) Key readings: African-American religious traditions. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

238 Topics in Afro-American Religion (3) Selected topics in Afro-American religious traditions. Variable content. May be repeated. Maximum 6 hours.

241 Modern Religious Philosophies (3) Religious imitations of major Western thinkers and philosophers from Nietzsche to the twentieth century German idealists. (Same as Philosophy 411.)

242 Classical Indian Systems of Philosophy: The Mahavira Tradition (3) Selected scholarly papers and anthropological problems of the traditions of Suntaksh, Yoga, Vedanta, Yoga, and Samkhya. Key readings: Primary Catholic and Asian Studies Ph. 374 or 376 or consent of instructor. (Same as Philosophy 412.)

243 Jesus and Paul Compared (3) Central ideas and concerns of the life and work of Jesus, Paul, and other movements in the religious, historical, and cultural context of the period. Advanced study of the Classics. Prerequisite: Consent of instructor and instructor. Variable content. May be repeated. Maximum 6 hours.

245 Seminar in Asian Religions (3) Selected figures, traditions, movements, and issues. Prerequisite: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

246 Seminar in American Religion (3) Selected figures, traditions, movements, and issues. Prerequisite: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

247 Readings and Research in Religious Studies (3) Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.

248 Foreign Study (1-15)

250 Off-Campus Study (1-15)

251 Proseminar in Religious Studies (3) For advanced students in Religious Studies. Required for majors. Selected topics, e.g., ritual and function of myth in religious traditions; religious thought and institutions; interaction and integration of various disciplines in related field of Religious Studies. Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.

RETAIL AND CONSUMER SCIENCES

101 Apparel Selection and Construction (3) (Same as Philosophy 251.)

102Retail and Consumer Sciences (1-3) Prerequisite consent based upon knowledge of its origin, history, functions, employment opportunities, role and importance to the economy.

103 Textiles for the Consumer (3) Study of fabrics, fabrics, structures and textiles related to selection, use, and care at the retail consumer. Prerequisite: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

319 Principles and Theories of Buying (3) Analysis of the theoretical foundations of consumer behavior and affecting buying patterns and processes. Prerequisite: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

321 Quantitative Merchandising (3) Investigation and practical approach of the principles, techniques, and philosophies guiding the management of consumer buying behavior in a retailing environment. Emphasis on quantitative techniques, forecasting, pricing, and logistics. Prerequisite: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

320 Social Psychology of Shopping (3) Cultural and social psychological aspects of consumer behavior. Emphasis on the influence of culture on consumer behavior and world around us. Prerequisite: Soc 100.

325 Fashion in History (3) Structure of fashion industry. History of apparel and accessory styles in selected periods of western civilization. Factors associated with origin, production, and abandonment.

350 Consumers in the Market (3) Consumer and market behavior; influences on behavior; consumer decision making; demand factors, market segmentation; consumer preferences; promotion, price, sales, and service. Prerequisite: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

356 Entrepreneurship and Small Business Management (3) Concepts of entrepreneurship within single ownership and other business organizations; risk taking and risk management; management of small business; market and risk assessment; current issues and problems. Prerequisite: 330. MCT 490.

357 Direct Retail Selling (3) General principles of selling goods at the retail level. Analysis of customer and personality factors. Psychology of selling, controlling salesperson motivation, selling skills in customer relations, and application of marketing techniques. Prerequisite: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

450 Readings and Research in Retail and Consumer Sciences (3) Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.
311 Works of Dostoevsky in English Translation (3) Topics vary and are announced in advance. Students seeking topics for works are welcome. No foreign language credit may be repeated. (Same as Russian and East European Studies 312.)

312 Works of Tolstoy in English Translation (3) Topics vary and are announced in advance. Students seeking topics for works are welcome. No foreign language credit may be repeated. (Same as Russian and East European Studies 312.)

313 Social Work Practice II (3) In-depth study of generalist practice with different size client systems, ethnic-sensitive assumptions, and related social work practice perspective. Prereq: Initial progression, 312. Coreq: 310 and 380.


316 Community Organization (3) Techniques for the design and implementation of community programs. Social work practice with communities, including research strategies to evaluate one's practice and/or social welfare programs and impact of the institution on society. Prereq: Full progression. Coreq: 410 and 495.


319 Mariology (3) Russia's society. Prereq: Philosophy 393.

320 Special Topics in Russian Literature in English Translation (3) Topics vary and are announced in advance. Student suggestions for topics are welcome. No foreign language credit may be repeated. (Same as Russian and East European Studies 326.)

321 Works of Dostoevsky in Russian Translation (3) Teaching driver education through use of simulation, traffic law, and current events. Prereq: Driver's license required. 3 hours lecture and 2 hours lab.

322 Works of Tolstoy in Russian Translation (3) Teaching driver education through use of simulation, traffic law, and current events. Prereq: Driver's license required. 3 hours lecture and 2 hours lab.


325 Special Topics in Russian Literature in Russian Translation (3) Special topics in Russian literature in Russian translation. Prereq: Russian 301-302.


336 Russian and East European Studies (887) Russian and East European literature, society. Prereq: 336 and Linguistics 426. (Same as German 426, French 426, Spanish 426.)

337 Russian and East European Studies (887) Russian and East European literature, society. Prereq: 336 and Linguistics 426. (Same as German 426, French 426, Spanish 426.)

338 Special Topics in Russian Literature in English Translation (3) Topics vary and are announced in advance. Student suggestions for topics are welcome. No foreign language credit may be repeated. (Same as Russian and East European Studies 326.)

339 Special Topics in Russian Literature in Russian Translation (3) Topics vary and are announced in advance. Student suggestions for topics are welcome. No foreign language credit may be repeated. (Same as Russian and East European Studies 326.)


341 Selected Topics in Russian and East European Studies (3) Independent study on a selected topic. Prereq: Russian 301-302.

342 Advanced Driver: Knowledge and Composition (3) Prereq: Driver's license required. 3 hours lecture and 2 hours lab.

343 Introduction to Driver Education (3) Prereq: Driver's license required. 3 hours lecture and 2 hours lab.

344 Retail Promotion (3) Advertising and special promotion activities. Prereq: 390; Coreq: 490. F. Enrollment by application only.

345 Retail Systems (3) Topics in retail and consumer sciences. Major products for junior and senior students drawn from special interests and interest in retail and consumer sciences. Prereq: Recommendation of Department Head. E.


347 Environmental Studies (3) Interdisciplinary seminar on a selected topic in environmental studies. Prereq: 375 or consent of the instructor. E.

348 Social Work (3) Enrichment of the social worker's practice, professional relations, knowledge, skills, and values; problem solving, client groups; helping situations, same pattern; practice techniques. Designed to assist students to consider their ability for careers in social work.


354 Advanced Driver: Knowledge and Composition (3) Prereq: Driver's license required. 3 hours lecture and 2 hours lab.


356 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.

357 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.

358 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.

359 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.

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362 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.

363 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.

364 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.

365 Special Topics in Russian Foreign Policy (3) Special topics in Russian foreign policy. Prereq: Political Science 458.
300 Spanish Literature in English Translation (3) From the Golden Age, Don Quijote the ingenious nobleman, the first modern novel, and the picaresque novel to the work of Galdós and Unamuno, Lope, Góngora, and Cela. No foreign language entrance exam required. Writing emphasis: four In-class essay examinations and 3000 words of writing outside the classroom.

280 Spanish American Literature in English Translation (3) Contemporary Spanish America: the novel of Jorge Ibañez, Camilo José Cela, and Jorge Luis Borges. No foreign language entrance exam required. Writing emphasis: four In-class essay examinations and 3000 words of writing outside the classroom.

303 Transition Studies (2) Development of linguistic skills necessary for satisfactory work in courses above 300. Recommended for students who would benefit from additional training beyond 104 in the skills of speaking, reading, and writing Spanish. Particular attention for preparation to meet Hispanic culture. No foreign language entrance exam required.

311 Aspects of Spanish American Literature (3) Introduction to the study of Spanish American literature, with emphasis on contemporary works. Genres may vary. Prerequisites: CAE or equivalent. (Same as Latin American Studies 312.)

325-324 Intermediate Conversation and Composition (3) Designed to improve proficiency in oral and written communication in Spanish.

345 Spanish for Business (3) A contemporary Spanish language as it applies to business transactions. Understannding and composing letters; real communication and elements to Hispanic culture related to good business practices. Prerequisites: 330 or consent of instructor.

412 Pragmatics (2) Prerequisite: 210 or equivalent.

422 Advanced Grammar (3) Focus of grammatical structures, idiomatic expressions, and communicative elements to Spanish culture related to good business practices. Prerequisites: 321, 322, or equivalent.

424 Advanced Conversation and Composition (3) Advanced conversational and compositional skills in Spanish for pre-professionals.

430 Language Description Linguistics (3) Same as French 428, German 428, Russian 425 and Linguistics 425.

431 Method of Historical Linguistics (3) Same as Russian 436, French 436, German 436 and Linguistics 436.

432 Romance Linguistics (3) Same as French 429 and German 429.

433 Spanish Civilization (3) Major social, political, and cultural developments in Spain from the origins of the civilization until today. Prerequisites: 311, 312 or equivalent. Writing emphasis: six In-class essay examinations and 3000 words of writing outside the classroom.

434 Curvatures (3) Emphasis upon selections from Don Quijote by the master Novelist, Miguel de Cervantes. Prerequisites: 311, 312 or equivalent.

435 Masterpieces of Spanish Literature (3) Selections from the Galdós and the modern Novelist, especially the Nobel Laureate, Miguel de Cervantes. Writing emphasis: four In-class essay examinations and 3000 words of writing outside the classroom.

436 Captains Courageous in Spanish (2) An integrative experience focusing on a broad range of issues and language skills, including reading, writing, listening, and speaking. Prerequisites: 311, 312 or equivalent. Writing emphasis: four In-class essay examinations and 3000 words of writing outside the classroom.

437 Capstone Tutorial in Spanish (3) Independent studies supervised closely by a faculty member. Prerequisites: Capstone Tutorial in Spanish: Prerequisite: 311, 312 or equivalent. Writing emphasis: work supervised individually and 3000 words of writing outside the classroom.

471 Latin American Civilization (3) Latin America's diverse heritage and major social and political institutions. Prerequisites: 311, 312 or equivalent. (Same as Latin American Studies 471.) Writing emphasis: four In-class essay examinations and 3000 words of writing outside the classroom.

472 Masterpieces of Spanish American Literature (3) Selected works by major Spanish American writers such as Dosto, Raul, Borges and others. Genres and periods may vary. Prerequisites: 311, 312 or equivalent. (Same as Latin American Studies 472.)

473 Social Protest Literature of Latin America (3) Literature of Latin America as a means of unmasking social illsthat have traditionally burdened Latin America. Reading major themes, linguistics, biografías, women writers, the role of the woman in Latin American society. Prerequisites: 311, 312 or equivalent. (Same as Latin American Studies 473.)

481 Foreign Study (1-35) Independent study project supervised closely by a faculty member. Prerequisites: CAE or equivalent. Writing emphasis: one In-class essay examination and 3000 words of writing outside the classroom.

482 Speech and Language Services in the Schools (3) Supervised practice with children with speech and language disorders. Prerequisites: 310, Admission to Teacher Education Program. State S/NC or letter grade. Maximum 6 hours. S/NC or letter grade.

484 Appraisal of Speech and Language Disorders (3) Emphasis on the application of speech and language principles. Prerequisites: 481, 482, 483 or equivalent. State S/NC or letter grade.

485 Student Teaching in Speech Pathology (3) On-site teaching experience with moderately and severe speech impaired. Prerequisites: Consent of instructor. Maybe repeated. Maximum 6 hours. S/NC or letter grade. State S/NC or letter grade.

486 Speech and Language Development (3) Focus on language development, including formal and informal assessment techniques, speech and language development, and language and cultural differences. Prerequisites: 481, 482, 483 or equivalent. State S/NC or letter grade.

487 Speech and Language Basis of Learning Disabilities (3) Nature and characteristics of persons with mild disabilities and the educational strategies appropriate for these persons. Prerequisites: 310, 315. Education 486 is a prerequisite. Prerequisites: 482, 483 or equivalent. State S/NC or letter grade.

488 Social Problems of the Exceptional Child (3) Emphasis on social and emotional problems of the exceptional child. Prerequisites: 310, 315. Education 486 is a prerequisite. Prerequisites: 482, 483 or equivalent. State S/NC or letter grade.

489 Introduction to Speech Development (3) Emphasis on the nature of language and its development. Prerequisites: 310, 315. Education 486 is a prerequisite. Prerequisites: 482, 483 or equivalent. State S/NC or letter grade.

490 Introduction to Special Education (1-3) Emphasis on the education of exceptional children. Implications of developmental variability and the role of the special education teacher. Prerequisites: Admission to Teacher Education Program. State S/NC or letter grade. Maximum 6 hours. S/NC or letter grade.


493 Independent Study (1-15) Independent study project supervised closely by a faculty member. Prerequisites: CAE or equivalent. Writing emphasis: one In-class essay examination and 3000 words of writing outside the classroom.


495 Independent Study (1-15) Independent study project supervised closely by a faculty member. Prerequisites: CAE or equivalent. Writing emphasis: one In-class essay examination and 3000 words of writing outside the classroom.

496 Nature of Hearing Impairments (3) Anatomy and physiology of hearing, hearing and noise levels, methods and instrumentation for assessment of hearing level, interpretation of audiometric scores to medical and other rehabilitation disciplines.

497 Introduction to the Psychology and Pathology of the Hearing Impaired (3) Primarily for those planning to work with the hearing impaired. Prerequisites: Psychology, social adjustment, communication methodology, language development and education of the hearing impaired. Survey of treatments. Visit to programs.

498 Psychology and Education of Students with Moderate/Severe Disabilities (3) Nature and characteristic of persons with moderate/severe disabilities and the educational strategies appropriate for those populations. Prerequisites: 310, 315. Education 486 is a prerequisite. Prerequisites: 482, 483 or equivalent. State S/NC or letter grade. Maximum 6 hours. S/NC or letter grade.

499 Introduction to Aural Rehabilitation (3) (Same as Audiology and Speech Pathology 494.)
440 Organizational Communication (3) Organizational settings and the variations of the communication process that affect the quality of human interaction both within and outside of the organization.

450 Interpersonal (3) Super-iot career-related espe-

460 History of Rhetorical Theory (3) Western rhetor-ical theory in its social and historical context.

466 Studies in Rhetorical History and Criticism (3) May be repeated. Maximum 6 hours.

470 Rhetoric of the Women's Rights Movement (3) Historical and critical study of public activity in cam-
paign for women's rights from the 1800's to the present. (Same as Women's Studies 466.) Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

471 Freedom of Speech (3) Historical and philosophi-
cal perspectives on freedom of speech and the First Amendment. (Same as Women's Studies 466.) Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

472 Thirteen of Argumentation (3) Conceptual bases of argumentation from classic to contemporary theo-

473 Political Communication (3) Survey of the polit-

cal communication process and the role of mass media in public issues and decision making. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

480 Theories of Argumentation (3) Conceptual bases of argumentation from classic to contemporary theo-

489 Social Communication (3) Communication in more areas of the discipline. Prereq: senior standing and completion of at least 12 hours of major require-

490 Organizational Communication (3) Organizational settings and the variations of the communication process that affect the quality of human interaction both within and outside of the organization.

491 Foreign Language (1-18) See description of major concentra-
tion. Prereq: Consent of faculty advisor and/or supervising instructor required prior to registration.

492 Internship (1-6) Supervised off-campus experience in application of statistical principles and method in business, industry, or government, culminating in a written report. Prereq: Permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. Letter grade only. May be repeated. Maximum 6 hours.

493 Independent Study (2-6) Faculty directed reading and investigation of specified topic in probability or statistical applications. Use of standard computer packages. Major writing require-

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

495 Principles of Statistical Process Management (3) Statistical process control techniques for minimizing variability and controlling process variation in manufacturing. Prereq: Six hours of statistics or permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. Letter grade only. May be repeated. Maximum 6 hours.

496 Undergraduate Seminar (1) Directed readings and research seminar. Prereq: senior standing and completion of at least 12 hours of major requirements. May be repeated. Maximum 6 hours.

497 Honors Thesis (6) Undergraduate thesis culminat-
ing in written report and oral defense. Prereq: Invitation of the Department Undergraduate Affairs Committee. Letter grade only. May be repeated. Maximum 6 hours.

498 Internship (1-6) Supervised off-campus experi-

499 Foreign Study (1-15) See description of major concentration. Prereq: Consent of faculty advisor and/or supervising instructor required prior to registration.

500 Oral Interpretation of Poetry (3) Individual and group performances of poetry. Prereq: 280 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

510 Argumentation and Debate (3) Reasoned deci-
sion-making with emphasis on analysis, reasoning, constructing and refuting arguments. Prereq: 290 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

515 Communication Theory and Research (3) Survey of the communication theory and research process, including major theoretical frameworks, methodological issues, and conditions affecting credibility. Prereq: 280 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

516 Topics in Speech Communication (3) Variables in communication processes, including major theoretical frameworks, methodological issues, and conditions affecting credibility. Prereq: 280 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

5192 Courses of Instruction / Speech Communication (3) Use of computer operating system commands and packaged programs for managing data files and statistical analysis. Prereq: 490 or equivalent.

5191 Social Communication (3) Use of computer operating system commands and packaged programs for managing data files and statistical analysis. Prereq: 490 or equivalent.

5190 Statistical Methods (3) Linear regression and cor-
rrelation, multiple regression, diagnostic, dummy vari-
ables, analysis of variance and covariance, categorical data. Emphasis on data analysis and interpretation. Not counted toward a major or minor in statistics. Not counted toward a major or minor in statistics. Not counted toward a major or minor in statistics. Not counted toward a major or minor in statistics.

5180 Introduction to Speech Communication (3) Variables in communication processes, including major theoretical frameworks, methodological issues, and conditions affecting credibility. Prereq: 280 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

5170 Interpersonal Communication (3) Processes by which people communicate and are affected by the face-to-face communicative behavior of others.

5160 Public Speaking (3) Preparation and delivery of presentations and persuasive speeches. Topics include ethical considerations, audience analysis, developing content, organization, arrangement, evaluation, and avoiding the avoidance of others.

5150 Communication and Debate (3) Reasoned deci-
sion-making with emphasis on analysis, reasoning, constructing and refuting arguments. Prereq: 290 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

5140 Nonverbal Communication (3) Exploration of non-
verbal communication within human communication processes. Prereq: 280 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

5130 Persuasion (2) Methods which contribute to affil-
iation, assistance, and interdependence in group intelli-
gence. Prereq: 280 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

5120 Interpersonal Communication Processes (3) Social psychological processes affecting interpersonal commu-
nication. Prereq: 280 or consent of instructor. Writing emphasis: critical at least one in-class essay examination and 3000 words of writing outside the classroom.

5110 Developing Speech Confidence (1) Principles and techniques for coping with apprehension about commun-
icating. Recommended for students who are concurrently enrolled in 200 level speech courses and desire additional work in dealing with their anxiety about speaking.

5100 Introduction to Speech Communication (3) Fundamentals of communication in interpersonal, intergroup, organisational, and public contexts.

5000 Communication Studies Program (1) Introduction to the Communication Studies Program. Prereq: 280. Written emphasis on analysis, reasoning, constructing and refuting arguments.
and transmission of power. Engine tune up and overhaul and small engine maintenance and repair is stressed through experimental and applied laboratory experi-
ences.

165 Woods Technology (3) Processes, tools, equip-
ment and products of wood working industries. Propri-
etary training, theory, forging, hot-press, steam.
Stresses correct safety and conservation practices.

201 Field Experience in Vocational Technical Educa-
tion (1) Field experience in public school programs in
various instructional areas. May be repeated. Maximum
3 hours. Satisfactory/No Credit only. F, S, Sp.

230 Typewriting and Shorthand Proficiency (3) Pro-
ficiency credit students planning on a clerical career in business education and office technology who have previously
completed typing and shorthand course. Prerequisite Admission to Teacher Education Program. Sp.

241 Architectural Graphics (3) Graphic representation of ideas and designs. Principles of construction, working drawings for a residential dwelling, and CAD techni-
quies. Prerequisite. 165 Sp or consent of instructor.

263 Basic Electricity/Electronics (1) Operation and operating principles. Laboratory work includes general DC theory and application, use of electrical measuring instruments, electrical analysis, introduction to solid-state devices. Upper and related laboratory experiences which involve the fabrication and testing of electronic circuits. Prerequisite: 163 or consent of instructor. Sp.

265 Construction Technology (3) Residential construction, including site selection, foundation design, framing, interior and exterior finishing. Prerequisite. 165 Sp or consent of instructor. Sp.


290 Micro Business Applications (3) Operating and programming microcomputers. BASIC, C++ and Java based software. Business applications of microcomputers. Prerequisite Admission to Teacher Education Program. Sp.

350 Related and Applied Theory in Occupations (1-
3) Applicable courses may vary based on individual occupational experiences. Laboratory experiences in the various areas of application. Prerequisite Admission to Teacher Education Program. Sp.

351 Job Analysis Techniques and Curriculum De-
velopment (3) Application of job analysis, instructional design and techniques for program development. Prerequisite Admission to Teacher Education Program.

352 Practicum in Industrial Education (1-3) Updating and departmental approval. E

354 Job Analysis Techniques and Curriculum De-
velopment (3) Principles of adult education concepts to design and manage adult training programs. Prerequisite: 352 and approval.

356 Lab Organization, Management, Maintenance, and Upgrading (3) Principles of laboratory management and equipment control. Prerequisite: 350 or consent of instructor. Sp.

357 Instructional Techniques in Technical Educa-
tion (3) Selection, design, and development of performance-based training programs. Prerequisite: 371 or consent of instructor.

361 Skilled Occupations (1-3) Applica-
tions, training, and performance standards and sequence of training tech-
niques. Writing emphasis course. At least one in-class writing assignment and evaluation. Prerequisite Admission to Teacher Education Program. F.

363 Special Topics in Microcomputer Applications (2) Special Topics in Microcomputer Applications. Prerequisite Admission to Teacher Education Program.

369 Plastic Technology (3) Characteristics and appli-
cations of plastics. Laboratory experience in the manufacture of plastic items. Prerequisite. 165 Sp or consent of instructor.

370 Advanced Typewriting and Shorthand Proficiency (3) Advanced progress in typewriting and shorthand. May be repeated. Maximum of 9 hours. Satisfactory/No Credit only. F, Sp.

371 Instructional Techniques in Technical Educa-
tion (3) Applied techniques of job analysis, instructional design and techniques, and instructional strategies for technical and related subjects. F, Sp, S.

372 Job Analysis (3) Applied techniques of job analysis, including job descriptions, training requirements, and planning and execution of training tech-
niques. F

373 Instructional Techniques in Technical Educa-
tion (3) Application of learning theories, instructional techniques, and instructional strategies for technical and related subjects. F, Sp, S.

374 Planning Instruction for Human Resource De-
velopment (3) Selection, design, and development of performance-based training programs. Prerequisite: 371 or consent of instructor.

401 Utilization of Community Resources (3) Strat-
egies of developing an awareness of the multiple resources within the community and the private sector through advisory committees, councils and partnerships. Development and management of public relations programs. Prerequisite: Three years of teaching experience.

410 Professional Student Teaching Seminar (1) Objectives and workshops of the professional teaching program. May be repeated. Maximum of 15 hours. Field experience in classroom, and laboratory teaching.

415 Coordination Techniques (3) Necessary proce-
dures, duties and responsibilities to implement, main-
ain, and evaluate a successful cooperative education program. Pr.

416 Introduction to Adult Education (3) Brooks of adult education activities and the breadth and depth of advanced education. Opportunities for professional practice apart from traditional institutional settings.

418 Education Program Planning and Manage-
ment (3) Processes of program development and special applications to adult training programs.

421 Adult Development and Training (2) Application of adult development concepts to design and manage adult training programs. Prerequisite: 415.

420 Personal and Professional Life Skills (3) Application of adult development concepts to design and manage adult training programs. Prerequisite: 415.

450 Seminar in Industrial Education (1-3) Topics to be assigned. May be repeated. Maximum of 6 hours. E

451 Individual Study in Technological and Adult Edu-
cation (1-3) Topics to be assigned. May be repeated. Maximum of 6 hours. E

453 Performance-Based Evaluation (3) Assessing the effectiveness of training programs in an industrial setting. May be repeated. Maximum of 9 hours. E

455 Performance-Based Evaluation (3) Assessing the effectiveness of training programs in an industrial setting. May be repeated. Maximum of 9 hours. E

456 Course Construction in Technology Education (1) Construction of a technical course. Prerequisite: Completion of a technical course.

457 Materials and Processes (3) Introduction to advanced technology, including theory, materials, equipment, and transmission of power. Engine tune up and overhaul and small engine maintenance and repair is stressed through experimental and applied laboratory experi-
ences. May be repeated. Maximum of 9 hours. E

460 Practical Application of Theory in Occupations (1-
3) Applicable courses may vary based on individual occupational experiences. Laboratory experiences in the various areas of application. Prerequisite Admission to Teacher Education Program. Sp.

461 Performance-Based Evaluation (3) Performance-based training programs. Prerequisite: Consent of instructor.

464 Methods and Mediation in Technology Educa-
tion (3) Principles, methods and techniques of teaching in the secondary public schools. Prerequisite: Consent of instructor.

465 Materials and Processes (3) Materials relative to the subjects taught and methods of selection and use. Prerequisite: Consent of instructor.

466 Course Construction in Technology Education (1) Construction of a technical course. Prerequisite: Completion of a technical course.

470 Training for Human Resource Development (3) Principles of management, including rules and faire practices, and its responsibilities to the employee, the employer, the public, and the profession. Prerequisite: 415.

475 Internship in Human Resource Development (3) Applications and responsibilities of the discipline. Prerequisite: Completion of 415.

479 Internship in Human Resource Development (5-
6) Internship in the discipline. Prerequisite: Completion of 415.

480 Student Teaching Seminar (1) Objectives and responsibilities of the practicum. May be repeated to a maximum of 9 hours. E

493 Internship in Human Resource Development (1) Internship in the discipline. Prerequisite: Completion of 415.

495 Internship in Human Resource Development (1) Internship in the discipline. Prerequisite: Completion of 415.

193 Survey of Drama (3,3) Includes 19th century, as well as Greek, Roman, Medieval, Elizabethan, and Eastern characteristics of drama. 211-Covers 19th century, as well as Greek, Roman, Medieval, Elizabethan, and Eastern characteristics of drama. 210-Includes thought, philosophy, aesthetics, and production practices. THEATRE (976)

100 Introduction to Theatre (5) Understanding drama and theatre arts with a focus on the historical development of various forms of theatre and an introduction to the craft of acting. Prerequisite: Consent of instructor.

210-211 Survey of Drama (3,3) Includes Greek, Roman, Medieval, Elizabethan, and Eastern forms of drama. 211-Details 19th century, as well as Greek, Roman, Medieval, Elizabethan, and Eastern characteristics of drama.

470 Internship in Human Resource Development (3) Applications and responsibilities of the discipline. Prerequisite: Completion of 415.

475 Internship in Human Resource Development (3) Applications and responsibilities of the discipline. Prerequisite: Completion of 415.

479 Internship in Human Resource Development (5-
6) Internship in the discipline. Prerequisite: Completion of 415.

493 Internship in Human Resource Development (1) Internship in the discipline. Prerequisite: Completion of 415.

495 Internship in Human Resource Development (1) Internship in the discipline. Prerequisite: Completion of 415.

497 Internship in Human Resource Development (3) Applications and responsibilities of the discipline. Prerequisite: Completion of 415.

499 Internship in Human Resource Development (3) Applications and responsibilities of the discipline. Prerequisite: Completion of 415.

510-511 Survey of World Drama (3,3) Includes Greek, Roman, Medieval, Elizabethan, and Eastern characteristics of drama. 211-Details 19th century, as well as Greek, Roman, Medieval, Elizabethan, and Eastern characteristics of drama.
**WILDLIFE AND FISHERIES SCIENCE (993)**

301 Law Enforcement and Public Relations (3) Fundamentals and general principles of public relations; methods of public service and practice and principles of relationship with the public.

441 Wildlife and Fisheries Techniques (3) Capturing and handling of game birds, wildlife; management techniques, wild mammals and endangered mammals. Current principles and practices of wildlife management. Prerequisites: Forestry, Wildlife and Fisheries 317 or 210 and 220. 2 hours and 1 lab. One weekend field trip required.

445 Ecology and Management of Wild Birds (3) Biogeography and ecological characteristics of game animals and endangered mammals. Current principles and practices of wildlife management;Prerequisites: Forestry, Wildlife and Fisheries 317 or 220. 3 hours. Application and practice.

446 Ecology and Management of Wild Birds (3) Biogeography and ecological characteristics of game animals and endangered mammals. Current principles and practices of wildlife management. Prerequisites: Forestry, Wildlife and Fisheries 317 or 220. 3 hours. Application and practice.

460 Senior Seminar (3) Variety of disciplines used to study the role of women in contemporary American political, economic, and social life. Special research or individual problem in sociology. Credit may not be applied toward the Zoology major. 3 credits. Group project or seminar format.

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466 Rhetoric of the Women's Rights Movement (3) The origins and development of American and European feminist rhetoric. Comments, essays, and speeches of feminist leaders; the role of women in the development and expression of feminist rhetoric. Prerequisites: Women and Religion (3) or Women's Studies 380. 3 credits. Group discussion format.

469. Women's Cinematic Representation (3) An introduction to feminist film criticism. (Same as Cinema Studies 340) 3 credits. Group discussion format.

471 Women's Cinema (3) An introduction to feminist film criticism. (Same as Cinema Studies 340) 3 credits. Group discussion format.

473 Women's Political Movements (3) An introduction to women's political movements in American history. Prerequisites: Women and Religion (3) or Women's Studies 380. 3 credits. Group discussion format.

474 Women's Political Movements (3) An introduction to women's political movements in American history. Prerequisites: Women and Religion (3) or Women's Studies 380. 3 credits. Group discussion format.

482 Philosophies of Feminism (3) An introduction to feminist philosophies. (Same as Philosophy 380) 3 credits. Group discussion format.

493 Independent Study (1-2) Topics of current interest. Intended for life sciences majors. Satisfactory/No Credit only. May be repeated but maximum of 2 credit hours may be applied toward the Zoology major. 1-2 credits.

330 Women in Music (3) An introduction to women in music. (Same as Music History 330) 3 credits. Group discussion format.

332 Women in Music (3) An introduction to women in music. (Same as Music History 330) 3 credits. Group discussion format.

334 Women in Music (3) An introduction to women in music. (Same as Music History 330) 3 credits. Group discussion format.

336 Women in Music (3) An introduction to women in music. (Same as Music History 330) 3 credits. Group discussion format.

338 Women in Music (3) An introduction to women in music. (Same as Music History 330) 3 credits. Group discussion format.

340 Women, Politics, and the Law (3) An examination of women's participation in various political institutions and organizations. (Same as Political Science 340) 3 credits. Group discussion format.
primary organism used is Drosophila. Prereq: Biology 210, 2 labs.

404 Cytological Technique (2) Practical experience with a variety of techniques including microscopy, embedding and staining, chromosome preparations, autoradiography, in situ hybridization, and immunofluorescence. Prereq: Biology 210, 2 labs.

405-412 Microcourse in Zoology (2) Selected advanced topics in zoology, concentrating in time and subject matter. Consult departmental listing for space offered. Prereq: An annoucement. May be repeated for credit but a maximum of 4 hours may be applied toward the biology major.

409 Perspectives in Zoology (3) Forefront considerations of key issues. Emphasis on current developments for applications, including societal and economic impacts and ethical and moral implications. Writing emphasis course: at least one out-of-class essay assignment and an oral presentation outside the classroom. An oral presentation and a referenced library research essay are required.

410 Advanced Cell Biology (3) Molecular and supramolecular structure and functions of eukaryotic cells including regulatory mechanisms, physiology, behavior and cell-cell interactions. Prereq: Biology 210, 2 labs.

412 Cell and Tissue Structure and Function (4) Analysis of differences in light and electron microscope levels. Prereq: Biology 210, 2 hours and 2 labs.

413 Immunology (3) (Same as Microbiology 413.)

414 General Physiology (3) Principles of cellular and organ system animal physiology. Prereq: Biology 210, 2 hours and 1 lab.

415 Comparative Animal Physiology (3) Comparison of diverse physiological mechanisms aiding in adaptation to particular habitats and functions. Prereq: Biology 210, 2 hours and 1 lab. Prereq: recommended: 411.

416 Laboratory in Physiology (2) Prereq or Coreq: 410 or 445.

420 Immunology Laboratory (1) (Same as Microbiology 420.)

425 Human Genetics (3) Genetic and molecular principles of human inheritance. Prereq: Biology 220.

430 Immunology (3) (Same as Microbiology 430.)

439 Immunology Laboratory (1) (Same as Microbiology 439.)

440 General Physiology (3) Principles of cellular and organ system animal physiology. Prereq: Biology 210, 2 hours and 1 lab.

445 Comparative Animal Physiology (3) Comparison of diverse physiological mechanisms aiding in adaptation to particular habitats and functions. Prereq: Biology 210, 2 hours and 1 lab. Prereq: recommended: 411.

446 Laboratory in Physiology (2) Prereq or Coreq: 440 or 445.

447 Comparative Animal Behavior (3) Principles and methods of ecology with emphasis on ecological, developmental, physiological and evolutionary aspects. (Same as Psychology 447.)

448 Comparative Animal Behavior Laboratory (3) Introduction to methods and experimental research in ethology. Coreq: 447. (Same as Psychology 448.)

450 Evolution (3) Modern concepts of animal evolution. Prereq: Biology 220.

451 Human Genetics (3) Genetics and molecular principles and problems of human inheritance. Prereq: Biology 220.

452 Evolutionary Developmental Biology (3) Introduction to the phylogenetic and ontogenetic study of evolution with description of evolutionary adaptations and their mechanisms. Prereq: 101-102 and 220. 2 hours and 1 lab.

453 Comparative Endocrinology (3) Comparative analysis of endocrine mechanisms, their role and interaction in maintenance of the organism and species. Prereq: 451 or equivalent.

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