Non-Degree Graduate Courses

The following disciplines (aerospace studies, ArchE, art, econ.,educ.,English, ERP, finance,French, German, history & pol.sci., IDE,marketing, music, phil., pol sci, pre-med,psych., Russian, sociology, Spanish, sp&ms, and theatre) do not offer a graduate degree. Economics and English have entered into cooperative agreements with the corresponding departments of the University of Missouri-St. Louis to offer a Master of Arts in Economics and in English. The agreements permit students to take a maximum of 12 semester hours on the Missouri S&T campus. Some of the upper division courses may be used, where pertinent, for credit toward other graduate degrees. Be sure to check the use of these courses with your major professor before you add these courses to your schedule.

Aerospace Studies Courses

- 350 Air Force Leadership Studies I (LEC 2.5 and LAB 0.5) This course introduces students to the leadership and management skills required of an Air Force junior officer. Special topics include leadership ethics, the Air Force personnel and evaluation systems, and management fundamentals. Through the use of classroom tools that include case studies, Air Force leadership and management situations are examined and practical applications of studies concepts are exercised. The principles and theories of ethical behavior as well as the complete understanding of the individual responsibility and authority of an Air Force officer are stressed. This course includes a Leadership Lab that provides the students the opportunity to apply leadership and management principles.
- 351 Air Force Leadership Studies II (LEC 2.5 and LAB 0.5) This course is a continuation of Arosp S 350. Emphasis is placed on professional knowledge, communication skills, and ethical behavior. Varied Air Force-peculiar formats and situations are offered to apply learned listening, writing, and speaking skills. This course includes a Leadership Lab that provides the students the opportunity to apply leadership and management principles.
- National Security Affairs/Preparation For Active Duty I (LEC 2.5 and LAB 0.5) This course examines national security policies, processes, and issues along with Air Force strategy and doctrine. Special topics include Air Force roles and missions, roles of various federal government departments, military organizations and functions, and the concept of joint operations. Within this structure, continued emphasis is given to refining communication skills. This course includes a Leadership Laboratory that provides advanced leadership experiences, giving students the opportunity to apply the leadership management principles of this course.

381 National Security Affairs/Preparation For Active Duty II (LEC 2.5 and LAB 0.5) Continuation of Arosp S 380. This final course of the Air Force ROTC curriculum examines officership, advanced leadership ethics, military law, current Air Force issues, regional studies, core values, and preparation for active duty. This course includes a Leadership Laboratory that provides leadership experiences, giving students the opportunity to apply the leadership and management principles of this course.

Architectural Engineering Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- 319 Applied Mechanics In Structural Engineering (LEC 3.0) A study of basic relationships involved in the mechanics of structures. Topic include basic elasticity, failure criteria, fundamental theories of bending and buckling of plates and cylindrical shells for practical application in analysis and design of bridge building floors and shell roofs. Prerequisite: Cv Eng 217 with grade of "C" or better. (Co-listed with Cv Eng 319)
- 320 Structural Analysis II (LEC 3.0) Classical displacement and force methods applied to structures of advanced design. Analysis of indeterminate structures such as continuous beams, arches, cables, and two and three dimensional frames, and trusses. Analysis of indeterminate structures involving temperature and support settlements effects. Prerequisites: Civ Eng 217 or Arch Eng 217. (Co-listed with Civ Eng 320)
- 3.22 Analysis And Design Of Wood Structures (LEC 3.0) A critical review of theory and practice in design of modern wood structures. Effect of plant origin and physical structure of wood on its mechanical strength; fasteners and their significance in design; development of design criteria and their application to plane and three dimensional structures. Prerequisite: Arch Eng 217 with a grade of "C" or better. (Co-listed with Cv Eng 322)

- 323 Computer Methods of Structural Analysis (LEC 3.0) Force and displacement matrix methods and computer methods applied to structural analysis. Analysis of indeterminate structures such as continuous beams, and two and three dimensional frames and trusses. Analysis of indeterminate structures involving temperature and support settlements effects using computer methods formulation. Prerequisite: Cv Eng 217 with grade of "C" or better. (Co-listed with Civ Eng 323)
- **326 Advanced Steel Structures Design** (LEC 3.0) The design of structural steel systems into a final integrated structure. Plate girders, composite systems, stability, connections, rigid frames, single and multistory buildings, and similar type problems of interest to the student. Use of the computer as a tool aid in the design will be emphasized. Prerequisite: Arch Eng 221 with a grade of "C" or better. (Co-listed with Cv Eng 326)
- 327 Advanced Concrete Structures Design (LEC 3.0)
 The design of structural concrete systems into a final integrated structure. Two-way slabs, long columns, connections, and discontinuity regions, deflections and cracking of beams and slabs, ACI design criteria, and similar type problems of interest to the student. Use of the computer as a tool to aid in the design will be emphasized. Prerequisite: Arch Eng 223 with a grade of "C" or better. (Co-listed with Cv Eng 327)
- **328 Prestressed Concrete Design** (LEC 3.0) Behavior of steel and concrete under sustained load. Analysis and design of pre-tensioned and post-tensioned reinforced concrete members and the combining of such members into an integral structure. Prerequisite: Arch Eng 223 with a grade of "C" or better. (Co-listed with Cv Eng 328)
- **329 Foundation Engineering II** (LEC 3.0) Classical earth pressure theories. Analysis of shallow and deep foundations to include bearing capacity and settlement of footings, rafts, piles and drilled piers. Analysis of stability and design of retaining walls and anchored bulkheads. Prerequisite: Arch Eng 229 with a grade of "C" or better. (Co-listed with Cv Eng 329)
- 345 Construction Methods (LEC 3.0) Introduction to construction planning selection of equipment and familiarization with standard methods for horizontal and vertical construction. Application of network analysis and schedules to project control. Prerequisite: Arch Eng 248 with a grade of "C" or better. (Co-listed with Cv Eng 345)
- 346 Management Of Construction Costs (LEC 3.0)
 Management of construction projects from inception
 to completion: estimates, role of network
 preplanning, project monitoring and control.
 Prerequisite: Arch Eng 248 with a grade of "C" or
 better. (Co-listed with Cv Eng 346)
- 349 Engineering And Construction Contract Specifications (LEC 3.0) Legal and business aspects of contracts and contracting procedure in the construction industry. Topics include formulation of contracts in common law, engineering services

- contracts, and construction project contract documents and contract administration issues. Prerequisite: Arch Eng 248 with a grade of "C" or better. (Co-listed with Cv Eng 349)
- 374 Infrastructure Strengthening With Composites (LEC 3.0) The course presents composite materials and includes principles of reinforcing and strengthening for flexure, shear, and ductility enhancement in buildings and bridges. It covers the design of existing members strengthened with externally bonded laminates and near surface mounted composites. Case studies are discussed. Prerequisites: Arch Eng/Civ Eng 217, Arch Eng/Civ Eng 223. (Co-listed with Cv Eng 374)
- 3.75 Low-Rise Building Analysis And Design (LEC 3.0) Characterization of various design loads, load combinations, general methodology of structural designs against lateral loads, code-oriented design procedures, distribution of lateral loads in structural systems, application of the International Building Code in design of loadbearing wall systems, building frame system and moment-resisting frame systems. Prerequisite: Preceded and/or accompanied by Civ-Arch Eng 221 or Civ-Arch Eng 223. (Co-listed with Civ Eng 375)
- **390 Undergraduate Research** (IND 0.0-6.0) Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six (6) credit hours allowed for graduation credit. Subject and credit to be arranged by instructor.

Art Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.

Economics Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **302 Internship** (IND 0.0-6.0) Internship will involve students applying critical thinking skills and discipline-specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisite: Senior status; must have completed 24 hours in major.
- **305** Micro and Macro Economics Essentials (LEC 1.5) This course is an introduction to the essentials

- of micro and macro economics for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in Business, IST, or Economics. Prerequisite: Senior or Junior standing and 3.0 GPA required.
- **311 Econometrics** (LEC 3.0) Applied statistical analysis of economic phenomena, including identification, least squares bias, and autocorrelation with emphasis on recent estimation procedures. Prerequisites: Stat 115 & 116, Econ 221 and 222.
- **315 Mathematical Economics** (LEC 3.0) Marginal analysis, calculus, and linear algebraic systems are applied in selected advanced topics in economics such as price theory, general equilibrium theory, input-output analysis, activity analysis, and game theory. Prerequisite: Econ 221, 222, and Math 8.
- **320 Money And Banking** (LEC 3.0) Study of the origin, principles, and functions of money, emphasizing the role of banks in the effectuation of monetary policies geared to achieve various economic and political goals. Prerequisite: Econ 222.
- **322 International Trade** (LEC 3.0) Analysis of gains from trade; the effects of factor mobility; effects of trade restrictions on trade flow and income distribution; arguments for restricting trade; and effects of trade on economic development, employment and human capital development. Prerequisite: Econ 221.
- **323 International Finance** (LEC 3.0) Examination of the international monetary system, the Balance of Payments, the foreign exchange market, futures and options markets; foreign exchange and other risk management for firms, financing from a global perspective and direct foreign investment. Prerequisite: Econ 222.
- **330 Public Finance** (LEC 3.0) Study of government expenditures and sources of revenue. Particular emphasis is given to governmental decision making--how these decisions affect the economy and the behavior of individuals, firms, and families within the economy; and how these decisions may be evaluated. Prerequisite: Econ 221.
- 335 Cost-Benefit Analysis (LEC 3.0) Investigates the rationale for cost-benefit analysis within a free enterprise setting. Discussion of market efficiency and failure; determination of social costs and benefits; applications of cost-benefit analysis; and, problems remaining in theory and practice. Prerequisite: Econ 221.
- 337 Financial Mathematics (LEC 3.0) The course objective is to provide an understanding of the fundamental concepts of financial mathematics. Topics include pricing, assets-liability management, capital budgeting, valuing cash flow, bonds, futures, swaps, options. Preparation for the financial mathematics actuarial exam will be provided. Prerequisites: Math 15 or Math 21, Econ 221 or Econ 222 or Econ 250 or Econ 321, Stat 211

- or Stat 213 or Stat 215 or Stat 217 or Stat 343. (Co-listed with Math 337)
- 340 Environmental And Natural Resource Economics (LEC 3.0) Optimum use of replenishable and non-replenishable resources, public goods and common resources, externalities, private vs. public costs, and quality of the environment; emphasis on public policy related to environmental and natural resource economics. Prerequisite: Econ 221.
- **345 Energy Economics** (LEC 3.0) Market structure. World resource development. Supply and demand analysis on energy production and consumption within domestic and global settings. Prerequisite: Econ 221.
- **351 Economic Development** (LEC 3.0) Theoretical analysis of the problem of economic development of the "poor" countries, where two-thirds of the world's population lives. Treatment of basic problem areas leading to a synthesis of theoretical approaches for the achievement of development. Prerequisite: Econ 221 or 222.
- 357 Network Economy (LEC 3.0) The course takes a look at the emerging Network/Internet economy, using traditional economic tools. Topics include production and reproduction cost of information, information as an "experience good," creation of different version of products, switching cost and lock-in affects, market adoption of dynamics, first-mover advantage, and intellectual property rights. Prerequisite: Econom 221. (Co-listed with IST 357)
- **375 Labor Economics** (LEC 3.0) Labor as a factor of production, collective bargaining, trade unionism, labor legislation, from the viewpoint of public policy. Prerequisite: Econ 221 or Econ 222.
- 389 Problems In Economic Policy (LEC 3.0)
 Advanced course designed for students majoring within the department. Appraisal and analysis of major problems of economic policy. Research and reports. Topics covered vary from year to year. Offered jointly by members of the department. Prerequisite: Seniors with 24 or more hours in Econ
- **401 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course.
- **405 Advanced Micro and Macro Economics Essentials** (LEC 1.5) An introduction to the essentials of micro and macro economics for running a business. It is designed for students planning to enter the MBA program who need this area and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in Business, IST, or Economics. Additional case or report required. Prerequisite: Bachelor Degree.
- 415 Advanced Mathematical Economics (LEC 3.0)
 Marginal analysis, calculus, and linear algebraic
 systems are applied in selected advanced topics in
 economics such as price theory, general equilibrium
 theory, input-output analysis, activity analysis, and

- game theory. This course is an advanced version of Econ 315, and will include additional research and project assignments. Credit cannot be obtained for both Econ 315 and Econ 415. Prerequisites: Econ 221, 222 and Math 8, Math 203.
- 421 Advanced Finance (LEC 3.0) This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis. This course is an advanced version of Econ 321, and will include additional research and project assignments. Credit cannot be obtained for both Econ 321 and Econ 421. Prerequisite: Econ 221 or Econ 222.
- 422 Advanced International Trade (LEC 3.0)
 Analysis of gains from trade; the effects of factor mobility; effects of trade restrictions on trade flow and income distribution; arguments for restricting trade; and effects of trade on economic development, employment and human capital development. This course is an advanced version of Econ 322, and will include additional research and project assignments. Credit cannot be obtained for both Econ 322 and Econ 422. Prerequisite: Econ 221.
- 423 Advanced International Finance (LEC 3.0) Examination of the international monetary system, the Balance of Payments, the foreign exchange market, futures and options markets; foreign exchange and other risk management for firms, financing from a global perspective and direct foreign investment. This course is an advanced version of Econ 323, and will include additional research and project assignments. Credit cannot be obtained for both Econ 323 and Econ 423. Prerequisite: Econ 222.
- 435 Advanced Cost-Benefit Analysis (LEC 3.0) Investigates the rationale for cost-benefit analysis within a free enterprise setting. Discussion of market efficiency and failure; determination of social costs and benefits; applications of cost-benefit analysis; and, problems remaining in theory and practice. This course is an advanced version of Econ 335, and will include additional research and project assignments. Credit cannot be obtained for both Econ 335 and Econ 435. Prerequisite: Econ 221.
- **440 Advanced Environmental And Natural Resource Economics** (LEC 3.0) Optimum use of replenishable and non-replenishable resources, public goods and common resources, externalities, private vs. public costs, and quality of the environment; emphasis on public policy related to environmental and natural resource economics. This course is an advanced version of Econ 340, and will include additional research and project assignments. Credit cannot be obtained for both Econ 340 and Econ 440. Prerequisite: Econ 221.

- 445 Advanced Energy Economics (LEC 3.0) Market structures. World resource development. Supply and demand analysis on energy production and consumption within domestic and global settings. This course is an advanced version of Econ 345, and will include additional research and project assignments. Credit cannot be obtained for both Econ 345 and Econ 445. Prerequisite: Econ 221.
- 475 Advanced Labor Economics (LEC 3.0) Labor as a factor of production, collective bargaining, trade unionism, labor legislation, from the viewpoint of public policy. This course is an advanced version of Econ 375, and will include additional research and project assignments. Credit cannot be obtained for both Econ 375 and Econ 475. Prerequisite: Econ 221 or Econ 222.

Education Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **305** Philosophy And Administration Of The Middle School (LEC 3.0) This course will acquaint students with aspects of education that are unique to the middle school. Attention will be given to the philosophy underlying the middle school. Finally, leadership theories most appropriate to the middle school will be studied.
- 315 Advanced Adolescent Development (LEC 3.0)
 This course is an advanced examination of the intellectual and social development of the adolescent. Theories of adolescent development and their implications for the educative process are covered and debated.
- **320 Professional Development** (LEC 1.0) This online course focuses on the responsibilities of the professional development committee, state requirements, and components of effective programs that positively impact student performance. Students will examine the relationships among the district's Comprehensive School Improvement Plan, MSIP and the PD Plan. Prerequisite: Graduate standing.
- 325 Novell Netware 4.1 / 4.11 (LEC 3.0) A practial, hands-on course for Novell network administration including NDS planning, mapping and documentation; system power up/down; security, resource service management; user management from creation to user and workstation maintenance; application software installation and management, and Novell Server installation.
- **335** Curriculum And Instruction Of The Middle School (LEC 3.0) This course advances teachers' understanding of middle school curriculum and instruction. It utilizes knowledge about the nature and needs of young adolescents in developing

- interdisciplinary learning units, and fosters applications appropriate to experienced teachers' professional assignments. Prerequisite: Graduate standing.
- **339 Current Issues In Educ: Performance Based Assessment, Beginning** (LEC 1.0 and LAB 2.0)
 This course is intended to provide an understanding of the principles of sound classroom assessment, the five different types of learning outcomes that need to be assessed and the choice of an assessment that best evaluates the achievement targets. Prerequisite: Practicing educator.
- **340** Current Issues In Educ:Performance Based Assessment, Intermediate (LEC 3.0) This course will provide participants with an understanding of performance-based assessments, how to construct performance tasks and how to construct scoring guides.
- **341 Current Issues In Educ: Performance Based Assessment, Advanced** (LEC 1.0 and LAB 2.0)
 This course is intended to provide an understanding of balanced classroom assessment. Students will learn to create multiple types of assessment measures for the purpose of evaluating a wide variety of achievement targets. Prerequisite: Practicing educator.
- A basic introduction to computers (LEC 1.0)
 A basic introduction to computers for K-12
 educators. Includes identification and use of
 hardware components, as well as the fundamentals
 of using the operating system and basic computer
 software. Actual software taught will reflect current
 usage. Prerequisite: Post Bac/practicing teacher.
- **350 Social Studies In The Elementary School** (LEC 3.0) Problems in preparation, teaching of social studies units with suitable materials, techniques for elementary teachers. Prerequisite: Instructor's approval.
- 354 Psychology Of The Exceptional Child (LEC 3.0)
 An understanding of the abilities and disabilities of children classified as exceptional, the instructional organization utilized to meet the needs of the exceptional child in the classroom, the import of educational and psychological handicaps upon these children. Guest lectures and field trips. Prerequisite: Psych 50. (Co-listed with Psych 354)
- **370 Teachers' Academy: Effective Instructional Strategies** (LEC 3.0) Participants will develop an understanding of research-based instruction and the ability to implement the instructional strategies in their classrooms. In addition to effective instructional practices, the teachers' academy will focus on leadership, empowerment, collaboration and renewal. Prerequisite: Graduate standing.

Engineering Mechanics Courses

300 Special Problems (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.

- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **324 Engineering Plasticity I** (LEC 3.0) The stress-strain relations of materials loaded beyond the elastic range. Yield criteria. Applications to tension, bending, and torsion and their interaction, and to problems with spherical or cylindrical symmetry. Prerequisite: IDE 110.
- **373 Advanced Dynamics** (LEC 3.0) Review of kinematics of particles and rigid bodies. Development of equations of motion using energy principles and Euler's equations. Stability of motions. Special topics. Prerequisites: IDE 150 or Eng Mech 160, Math 204.
- 375 Structural Modal Analysis: Theory And Application (LEC 2.0 and LAB 1.0) A modeling technique for the dynamic behavior of structures. Topics include structural dynamics theory, digital signal processing and instrumentation, modal parameter extraction, vibration simulation and design modification. Hands-on experience with an integrated analysis of the experimental modal testing and the analytical finite element method. Prerequisite: IDE 110 and 150 or Eng Mech 160, Math 203 and 204.
- **390 Undergraduate Research** (IND 0.0-6.0) Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six (6) credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor. Consent of instructor required.
- **400 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **401 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- 406 Boundary Methods In Mechanics (LEC 3.0) Discussion of weighted residual methods and development of boundary integral and boundary element concepts with applications to problems in potential theory, elasticity, plate theory and plasticity with emphasis on solution of steady state and transient problems in potential theory and elasticity. Prerequisite: E Mech 307.
- **412 Continuum Mechanics** (LEC 3.0) Tensorial preliminaries, finite deformation and strain; general kinematics; stress; thermodynamic concepts; constitutive equations, elastic, fluid, plastic, and viscoelastic bodies. Introduction to microcontinuum concepts. Prerequisite: E Mech 311.
- **422 Theory Of Elasticity** (LEC 3.0) Formulation and study of standard boundary-value problems in linear elastostatics: uniqueness theorems, Saint-Venant's principle and complex-variable techniques of solution. Prerequisites: E Mech 322, Math 309, 351.

- **427 Viscoelasticity** (LEC 3.0) Constitutive equations for viscoelastic materials. Transform techniques. Thermal effects. Applications to special problems. Prerequisites: E Mech 311, Math 309, Math 351 or 357.
- 462 Theory Of Vibrations II (LEC 3.0) Topics include: continuous systems, Fourier transform solutions, eigenvalue problems, random vibrations, nonlinear vibrations, and impact in continuous systems. Prerequisite: E Mech 361 or Mc Eng 307 or Ae Eng 307
- 463 Theory Of Random Vibrations (LEC 3.0) Statistical properties of random vibration processes including autocorrelation and covariance, spectral density of random excitation and response. Gaussian, narrow band and wideband processes. Response of multidegree of freedom systems to stationary random excitation. Prerequisite: E Mech 361 or Mc Eng and Ae Eng 307.
- **481 Wave Propagation In Continuous Media I** (LEC 3.0) Linear wave equations. Wave motion in unbounded and bounded media. Effects of anisotropy. Elements of nonlinear one-dimensional wave propagation. Experimental techniques. Special topics. Prerequisite: E Mech 311.
- 482 Wave Propagation In Continuous Media II (LEC 3.0) Hyperbolic systems of equations, method of characteristics. Application of these techniques to mechanics; compressible fluids, elasticity, acceleration and shock waves. Nonlinear dispersive waves. Experimental techniques. Prerequisite: E Mech 481.
- **490 Research** (IND 0.0-15.0) Investigations of an advanced nature leading to the preparation of a thesis or dissertation. Consent of instructor required.
- **493 Oral Examination** (IND 0.0) After completion of all other program requirements, oral examinations for on-campus M.S./Ph.D. students may be processed during intersession. Off-campus M.S. students must be enrolled in oral examination and must have paid an oral examination fee at the time of the defense/comprehensive examination (oral/written). All other students must enroll for credit commensurate with uses made of facilities and/or faculties. In no case shall this be for less than three (3) semester hours for resident students.
- 495 Continuous Registration (IND 1.0) Doctoral candidates who have completed all requirements for the degree except the dissertation and are away from the campus must continue to enroll for at least one hour of credit each registration period until the degree is completed. Failure to do so may invalidate the candidacy. Billing will be automatic as will registration upon payment.

English Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **302 Advanced Composition** (LEC 3.0) Instruction and practice in writing expository essays of substantial content and skill, with particular emphasis on the rhetorical applications of recent findings in language research. Papers required will include critical analyses of literary works, and library research. Prerequisite: English 60 or 160.
- **303 Internship** (LEC 0.0-6.0) Internship will involve students applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisite: Senior status; must have completed 24 hours in the major.
- 305 History And Structure Of The English Language (LEC 3.0) An introduction to the study of the English language and its history through Old English, Middle English, and Modern English. Prerequisite: English 20.
- **306** A Linguistic Study Of Modern English (LEC 3.0) A descriptive analysis of Modern English--its phonology, grammar, and vocabulary. Prerequisite: English 20.
- **310 Seminar** (RSD 3.0) Discussion of current topics. Prerequisites: English 20 and a semester of college literature.
- 311 Teaching And Supervising Writing (LEC 3.0) Students will study contemporary and traditional approaches to writing instruction. The course will give students practice in applying composition theory and research to development of teaching methods, including course syllabi and assignments. Prerequisite: 6 hours of college level writing courses.
- 312 Survey Of Old And Middle English Literature (LEC 3.0) Survey of Old English poetry in translation and Middle English literature (excluding Chaucer) through Malory. Special emphasis on culture and language with some attention given to modern reinterpretation of medieval works. Prerequisites: English 20 and a semester of college literature.
- **315 Chaucer** (LEC 3.0) A study of Chaucer as a narrative poet by an intensive examination of The Canterbury Tales and Troilus and Criseyde. Prerequisites: English 20 and a semester of college literature.
- **330 Sixteenth Century English Literature** (LEC 3.0) A survey of the poetry and prose of England from 1500 to 1600. Prerequisites: English 20 and a semester of college literature.

- 331 Seventeenth Century English Literature (LEC 3.0) A study of major authors (excluding Milton) of prose and poetry in England from 1600 to 1660. Special attention will be paid to John Donne and the metaphysical poets, to Ben Jonson and the Cavalier poets, and to major prose writers such as Francis Bacon, Sir Thomas Browne, and others. Prerequisites: English 20 and a semester of college literature.
- **337 The Plays Of William Shakespeare** (LEC 3.0) Selected comedies, tragedies, histories, and romances from early middle, and late periods of William Shakespeare's life. Prerequisites: English 20 and a semester of college literature.
- 345 The Restoration & Eighteenth Century (LEC 3.0) The history, development, and cultural contexts of British literature from 1660 to 1798. Prerequisites: English 20 and a semester of college literature
- **Texts And Contexts** (LEC 3.0) Examines the relationships between selected texts written or published in a given year and the context of events of that time. Also explores current critical approaches to such texts and contexts. Writing intensive and Computer intensive. Prerequisites: English 20 and a semester of college literature; junior standing.
- **353 British Romantic Literature** (LEC 3.0) A study of the prose and poetry of the British Romantic period, 1775 to 1832. Prerequisite: English 20 and a semester of college literature.
- **355 Victorian Literature** (LEC 3.0) A study of British prose and poetry from 1832 to 1900. Prerequisites: English 20 and a semester of college literature.
- **361 The British Novel I** (LEC 3.0) The history, development, and cultural contexts of the British novel from the late seventeenth to the early nineteenth century. Prerequisite: English 20 and a semester college literature.
- **362** The English Novel II (LEC 3.0) A study of the development of the novel with major attention given to the Victorian and 20th century novelists. Prerequisites: English 20 and a semester of college literature.
- 368 Early American Literature (LEC 3.0) This course will follow the development of American literature from its Colonial beginnings (1614) to the rise of Romanticism (1836). The course will pay particular attention to how American writers used literature in defining and even creating the New World. Prerequisites: English 20 and a semester of college literature.
- **370** American Poetry I (LEC 3.0) A study of significant selected poets of, primarily, the 19th century, with special attention to theme, diction, and form, and to poetry as a compressed image of the human condition. Prerequisites: English 20 and a semester of college literature.

- **371 The American Renaissance** (LEC 3.0) A study of American literature from Poe to Whitman. Prerequisites: English 20 and a semester of college literature.
- **372** American Poetry II (LEC 3.0) A study of significant selected poets of the 20th century, with special attention to theme, diction, and form, and poetry as a compressed image of the human condition. Prerequisites: English 20 and a semester of college literature.
- **375** The American Novel I (LEC 3.0) A study of selected, representative novels in chronological sequence from the beginning to the major realists. Prerequisites: English 20 and a semester of college literature.
- **376 The American Novel II** (LEC 3.0) A study of selected, representative novels in chronological sequence from the major realists to the present. Prerequisites: English 20 and a semester of college literature.
- **378 The American Experience** (LEC 3.0) Examines one or more of the subjects of the American experience such as race, gender, class, ethnicity, region, technology, religion, as it is expressed in the culture. Prerequisite: English 178.
- **379 Mark Twain** (LEC 3.0) A study of Mark Twain's works which may include such topics as Twain's contribution to American humor and American prose style. Prerequisites: English 20 and a semester of college literature.
- **380 Contemporary American Literature** (LEC 3.0) Studies in American prose (fiction and non-fiction), drama, poetry, and screen plays published within the last fifteen years. Prerequisites: English 20 and a semester of college literature.
- **382 Contemporary British Literature** (LEC 3.0) Studies in British prose (fiction and non-fiction), drama, poetry, and screen plays published within the last fifteen years. Prerequisites: English 20 and a semester of college literature.
- **390 Undergraduate Research** (IND 0.0-6.0) Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six (6) credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor. Consent of instructor required.
- 392 Advanced Writing For Science & Engineering (LEC 3.0) Focus on writing applications specifically for students in scientific or engineering fields. Primary emphases will be on producing effective and readable professional writing. Prerequisites: English 160 and 260, or graduate standing.
- 393 Advanced Writing For Science And Engineering II (LEC 2.0) This course -- second in a series -- focuses on writing for publication, from the initial proposal and query to the final product. Students will work on the materials they have underway with their advisers and/or research colleagues. Prerequisites: English 160 and 260, or graduate standing.

- **402 Readings In British Literature** (LEC 3.0) Directed readings and writing on selected topics and areas in British literature. Credit will only be given for one of English 402, 403, 404, or 405 toward the Coop MA with UMSL. Prerequisites: Graduate standing and consent of instructor.
- **403 Readings In American Literature** (LEC 3.0) Directed readings and writing on selected topics and areas in American literature. Credit will only be given for one of English 402, 403, 404, or 405 toward the Coop MA with UMSL. Prerequisites: Graduate standing and consent of instructor.
- **404 Readings In Literature And Theory** (LEC 3.0) Directed readings and writing on selected topics and areas in Literature and Theory. Credit will only be given for one of English 402, 403, 404, or 405 toward the Coop MA with UMSL. Prerequisites: Graduate standing and consent of instructor.
- 405 Readings In Rhetoric And Composition (LEC 3.0) Directed readings and writing on selected topics and areas in Rhetoric and Composition. Credit will only be given for one of English 402, 403, 404, or 405 toward the Coop MA with UMSL. Prerequisites: Graduate standing and consent of instructor.

Enterprise Resource Planning Courses

- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- 345 Use of Business Intelligence (LEC 3.0)
 Application of "intelligent" techniques from CS and OR to business decision making. Overview of the theory, but with a focus on the application to business problem solving. Use of SAP as a tool to access and present data, search for patterns, and identify exceptions, as well as forecase, optimize, and schedule resources. Prerequisite: ERP 346 or Bus 426 and database experience.
- **346 Enterprise Resource Planning Systems Design and Implementation** (LEC 3.0) This course provides a technical overview of Enterprise Resource Planning Systems and their impact on organizations. SAP is introduced to illustrate the concepts, fundamentals, framework, general information technology context, the technological infrastructure, and integration of business enterprise-wide applications. Prerequisite: IST 141.
- **347 Supply Chain Management Systems** (LEC 3.0) The course studies the need for supply chain integration and the challenges of managing complex interfaces. This course focuses on the systems approach to the planning, analysis, design, development, and evaluation of supply chain. The

- course discusses activities that lead to integration of information and material flows across multiple organizations. Prerequisite: ERP 346 or Bus 420 or (ERP 246 previously, and ERP 346 concurrently).
- **401 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **446** Enterprise Resource Planning: Systems Config and Integration (LEC 3.0) Implementation and design practices for business processes in Enterprise Resource Planning (ERP) systems. The course will examine and apply techniques used in SAP R/3 for system configuration and integration, with a focus on logistics and finance. Prerequisite: ERP 346 or Bus 420 or (ERP 246 previously, and ERP 346 concurrently).
- 448 Strategic Enterprise Management System Configuration (LEC 3.0) Implementation and design practices for enterprise performance measurement and monitoring systems with a focus on balanced scorecard and value based management. SAP's Strategic Enterprise Management (SEM) will be used as a tool for project implementation. Prerequisites: ERP 346 or Bus 426, ERP 345, some experience in accounting and strategic management, and Graduate Standing.

Etymology Course

306 Introduction to Etymology (LEC 3.0) Introduction to etymology in its broadest sense: origin of words, idioms, writing systems, etc. Prerequisite: Any foreign language course or English 20.

Finance Courses

- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- 305 Finance Essentials (LEC 1.5) This course is an introduction to the essentials of corporate finance for running a business. This course is designed for students planning to enter the MBA program. Credit in this course cannot be applied to any major or minor in Business, Information Sciences and Technology. Prerequisites: Senior or Junior Standing; 3.0 GPA required.
- **350 Corporate Finance II** (LEC 3.0) This course provides a rigorous and consistent presentation of the theory of financial decisions. Capital markets are analyzed under assumptions of risk aversion and uncertainty. Models of modern portfolio theory are discussed including the CAPM and the Modigliani-Miller analysis. Prerequisite: Finance 250.

- 405 Graduate Finance Essentials (LEC 1.5) This course is an introduction to the essentials of corporate finance for running a business. This course is designed for students planning to enter the MBA program. Credit in this course cannot be applied to any major or minor in Business, Information Sciences and Technology. Additional case or report required. Prerequisite: Bachelor Degree.
- 437 Financial Mathematics II (LEC 3.0) Continuation of Math 337. Topics include martingales and measures, stopping times, discrete and continuous time finance, Brownian motion, Ito calculus, stochastic differential equations, Black-Scholes-Merton formula, numerical procedures. Prerequisite: Math 337 or Econ 337.

French Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **310 Seminar** (IND 0.0-6.0) Discussion of current topics. Prerequisite: Senior standing.
- **311 Advanced French Conversation** (LEC 2.0) Advanced conversation and oral practice. Prerequisite: French 110.
- **360 French Culture And Civilization** (LEC 3.0) A survey of French culture and civilization of the past 2,000 years, including art, architecture, music, literature, geography and politics. Prerequisite: French 170.
- **370 Survey Of French Literature I** (Early Period) (LEC 3.0) The history and development of French literature from Les Chansons De Geste through the important philosophers of the 18th century to Beaumarchais. Assigned readings are in French, and lectures are largely in French. Prerequisite: French 170.
- **375 Survey Of French Literature II(Modern Period)** (LEC 3.0) 19th and 20th century French literature. Prerequisite: French 170.
- **402 Beginning French For Graduate Students** (IND 0.0) Preparation for reading examinations for the PHD degree. Two hours per week.

German Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.

- **310 Seminar** (RSD 0.0-6.0) Discussion of current topics. Prerequisite: Senior standing.
- **311 Advanced German Conversation** (LEC 2.0) Advanced conversation and oral practice. Prerequisite: German 110.
- **370 Survey Of German Literature I (Early Period)** (LEC 3.0) A study of the history and development of 16th, 17th, and 18th century German literature. Fall semester. Prerequisite: German 170.
- **375 Survey Of German Literature II** (Modern Period) (LEC 3.0) 19th and 20th century German literature. Prerequisite: German 170.
- **385** The German Novelle (LEC 3.0) A study of the German novelle as a literary genre. Prerequisite: German 170.
- **402 Beginning German For Graduate Students** (IND 0.0) Preparation for reading examinations for the Ph.D. degree. Two hours per week. No credit.

History Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **302 Internship** (IND 0.0-6.0) Internship will involve students applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisites: Senior status; must have completed 24 hours in major.
- **310 Seminar** (IND 0.0-6.0) Discussion of current topics. Prerequisite: Senior standing.
- **312 Tudor And Stuart England** (LEC 3.0) A study of England 1485 1689 covering the social, political, religious, and cultural developments. Prerequisite: Hist 111 or 220.
- 316 The American Presidency (LEC 3.0) Historical development of the presidency; emphasis on the constitutional powers and limits of the office and the political contextual variables that influence presidential behaviors. Prerequisite: Pol Sc 90 or Hist 176. (Co-listed with Pol Sc 316)
- **321 Ancient Greece** (LEC 3.0) Aegean and Greek Civilization from Homeric times to the Roman Conquest of the Hellenic World. Designed for the student who wishes to understand the fundamental conditions of classical life and to comprehend the ideas that inspired action. Emphasis will be on social, intellectual, political and religious aspects of the classical world. Prerequisite: Hist 111.

- **322 Ancient Rome** (LEC 3.0) Rome 509 B.C. to 337 A.D. The Roman world from the founding of the Republic through the reign of constantine. Special emphasis is on the transformation of classical culture during the Republic and Imperial age. Prerequisite: Hist 111.
- **323 Medieval History I** (LEC 3.0) The Early Middle Ages, 284 A.D.-753 A.D., transition from ancient to Medieval civilization. The fundamental differences between Roman and Medieval ideas, institutions and life. The triumph of Christianity, the conditions which made this triumph possible and its role in the development of Western Europe. Prerequisite: Hist 111.
- 324 Medieval History II (LEC 3.0) Medieval Civilization, 11th-13th centuries. The transition from Medieval to Modern world, developments in the political, social and economic institutions of the Medieval world and their enduring effect on Western European Civilization, conflict of faith and reason during this period. Prerequisite: Hist 111.
- 325 History Of Renaissance Thought (LEC 3.0) Concentrates on the political, religious, and social thought of the Renaissance. Particular emphasis on the revival of the classics, the spread of humanistic values, and reform efforts during the period with relationship to the material basis of society. Prerequisite: Hist 111 or 112.
- 327 Europe In The Age Of The French Revolution And Napoleon (LEC 3.0) An in-depth examination of the causes, courses and results of the French Revolution and the Napoleonic Era (1789-1815). The impact of the age of the French Imperium upon European economic, diplomatic, intellectual, political and social development. Prerequisite: Hist 112.
- 328 Foundations Of Contemporary Europe 1815-1914 (LEC 3.0) Europe after Napoleon, development of democracy and nationalism, revolutionary movements and leaders, unification of Italy and Germany, national developments of the major powers and the road to the First World War are the bases of this course. Prerequisite: Hist 112.
- **329 Contemporary Europe** (LEC 3.0) First World War, the Versailles Peace Settlement and its aftermath, the Soviet, Fascist and Nazi revolutions and regimes, Western culture between the wars, the Second World War, the age of the atom and Cold War. Prerequisite: Hist 112.
- 340 Religion And Witchcraft In Early America (LEC 3.0) An examination of the role of occult ideas and practices in the religious life of early Americans. Emphasis placed upon Puritan beliefs which contributed to seventeenth century effort to eradicate witchcraft. Prerequisite: Hist 175 or Hist 112.
- **341 Colonial America** (LEC 3.0) Political and social trends in America to 1754. Emphasis placed upon native American culture, Spain and France in

- America, population trends, family, religion, class structure, economic change, social conflict, and the development of individualism in early America. Prerequisite: Hist 175.
- 342 Revolutionary America, 1754-1789 (LEC 3.0) An examination of the causes and consequences of the American Revolution. Emphasis placed upon the social conditions in America which contributed to both the Revolution and the writing of the 1787 Constitution. Prerequisite: Hist 175.
- 343 Age Of Jefferson And Jackson (LEC 3.0) Economic, political, social and constitutional development of the early American republic; the Federalist and Jeffersonian periods, Jacksonian Democracy, rise of sectionalism. Emphasis placed on historical interpretation and historiography of the period. Prerequisite: Hist 175.
- **344 Civil War And Reconstruction** (LEC 3.0) Lecture, discussion and readings on the causes and consequences of the American Civil War. Focuses on the prewar North-South sectional rivalry: impact of the war on American society, government and politics. Reconstruction including the development of racial crisis in United States history. Prerequisite: Hist 175.
- 347 Origins Of Modern America, 1877-1920 (LEC 3.0) Examines the industrial transformation of America, including the Gilded Age, The Populist-Progressive reform movement, urbanization, and the technological, social, cultural and intellectual responses to industrialization which provided the foundations for modern America. Prerequisite: Hist 176
- 348 Recent United States History (LEC 3.0) Examines America's modern age including the New Era, the New Deal, Internationalism, post-war affluence, the post-industrial era as well as the cultural, intellectual, social and technological features of American society from 1920 to the present. Prerequisite: Hist 176 or 347.
- **351 American Intellectual History I** (LEC 3.0) Deals with the ideas of intellectuals and the thought of popular culture, and with possible relationships between the two. Among the climates of opinion studied are the reformation in America, the Enlightenment, and Romanticism. Prerequisite: Hist 175.
- 352 American Intellectual History II (LEC 3.0) The ideas of intellectuals and the thought of popular culture, and possible relationships between the two. Among the climates of opinion studied are the Gilded Age, Darwinism, Progressivism, the Twenties, the Great Depression, the Affluent Fifties, the Counter-Culture Sixties. Prerequisite: Hist 176 or 351.
- **353 History Of The Old South** (LEC 3.0) Analysis of the southern region of the United States between 1607-1861 with emphasis on economic, social, political, intellectual, and racial themes. Prerequisite: Hist 175.

- **354 History Of The Modern South** (LEC 3.0) Analysis of the southern region of the United States between 1877 and the present with emphasis on economic, social, political, intellectual, and racial themes. Prerequisite: Hist 176.
- 355 The History Of Black America (LEC 3.0) Examines Afro-American experience from the beginnings of the slave trade to the present. Cultural, economic, and civil rights topics are treated. Prerequisite: Hist 175 or 176.
- 356 History Of The American City (LEC 3.0) A social, political, economic and cultural survey of the American city from colonial times to late-20th century. Urbanization is approached as an independent variable in American history. Prerequisite: Hist 175 or 176.
- **357 The History Of The West** (LEC 3.0) This class examines the American settlement of the TransMississippi West. Areas to be considered include cattle, mining, exploring, women, and Native Americans. Traditional and contemporary views of the West will be analyzed. Prerequisite: Hist 175 or 176.
- 358 American Constitutional History (LEC 3.0) Emphasis on the history of American legal and constitutional systems. The role of the Supreme Court will be examined and critical constitutional decisions analyzed. Special emphasis will be on the history of the federal judiciary from 1801 to the present. Prerequisite: Hist 175 or 176.
- **360 History Of The American Family** (LEC 3.0) Beginning with an examination of the family in Western Europe c. 1600, the course traces the development of the family in America to the present. Prerequisite: Hist 175 or 176.
- 361 American Environmental History (LEC 3.0)
 This class discusses the impact of human interactions with the physical environment and the natural world's influence on human civilizations with emphasis on the 19th and 20th centuries. Prerequisite: History 112 or History 175 or History 176.
- **370 History Of Baseball** (LEC 3.0) This course will survey and interpret the history of baseball from its earliest beginnings down to the present. Main focus will be on the evolution of the professional game in all of its facets. Prerequisite: Hist 175 or 176.
- 375 Architecture, Technology and Society; 1750 to Present (LEC 3.0) This course investigates the relationships between architecture and technology and, as a consequence, architecture's impact on modern culture and society. A field trip to Chicago is an integral part of the course. Topics include; the industrial revolution, housing styles, new materials, Bauhaus and international style, and post-modern architecture. Prerequisites: History 111 or 112 or 175 or 176 or Pol Sci 90. Recommended: Junior or Senior Standing. Recommended for Arch Eng majors: Art 203 taken prior to course.

- 380 20Th Century Americans In Combat (LEC 3.0)
 Through lectures, films, readings, exams, film reviews and discussions, this course examines the American military and combat experience throughout much of the twentieth century. The ultimate goal of the course is for students to understand the realities of warfare and its effect on ordinary Americans as well as American society. Prerequisite: Hist 175 or 176 or 112.
- 381 The United States In World War II (LEC 3.0)
 Through lectures, readings and film this course will
 explore the American experience in World War II.
 The course will particularly focus on the war's
 American major battles along with the war's effect
 on Americans in combat and on the home front.
 Prerequisite: Hist 175 or 176.
- **382** The United States in Vietnam (LEC 3.0) Through lecture, film and readings, this course examines the American experience in the Vietnam War. The course covers the causes and consequences of the war as well as its effect on those who fought and on American society as a whole. There is a special emphasis on the realities of combat and the war's impact on individual Americans. Prerequisite: History 176.
- **383 U.S. Diplomatic History to World War II** (LEC 3.0) This course is a history of American foreign relations, broadly conceived, from the War for Independence to WWII. Among other things, it deals with the diplomacy of survival, of expansion and of economic and political hegemony. Prerequisites: Hist 175, 176 or Pol Sc 90. (Co-listed with Pol Sc 383)
- 384 American Diplomatic History Since World War II (LEC 3.0) American Diplomatic History Since World War II will address the major issues in American foreign policy from WWII to the present. Its primary focus is on the Cold War and the post-Cold War problems the U.S. has faced. Prerequisite: History 176 or Pol Sci 90. (Co-listed with Pol Sci 384)
- **402 Readings In American History To 1865** (IND 3.0-5.0) Directed readings and writing on selected topics and areas in American History to 1865. Prerequisites: Graduate standing and consent of instructor.
- 403 Readings In American History Since 1865 (IND 3.0-5.0) Directed readings and writing on selected topics and areas in American History since 1865. Prerequisites: Graduate standing and consent of instructor.
- **404 Readings In European History To 1715** (IND 3.0-5.0) Directed readings and writing on selected topics and areas in European History to 1715. Prerequisites: Graduate standing and consent of instructor.
- **405** Readings In European History Since 1715 (IND 3.0-5.0) Directed readings and writing on selected topics and areas in European History since 1715. Prerequisites: Graduate standing and consent of instructor.

Interdisciplinary Engineering Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department the opportunity to test a new course. Variable title.
- 315 Interdisciplinary Design Project (LEC 2.0 and LAB 1.0) Interdisciplinary design topics include team report writing, patent search and application, prototyping techniques, conflict resolution, critiquing methods, and presentation skills. Student teams will complete a design project for an external or internal sponsor, including a working prototype of the product. Prerequisites: IDE 215, IDE 220.
- **342 Introduction To Solar Car Design** (LEC 3.0) The course provides an introduction to designing and building a solar car for participating in national and international competitions. Topics include power management, race rules, solar array, batteries, electric motors, chassis structure, suspension, drive train, steering, brakes, signals, displays and controls, management structure, and race logistics. Prerequisite: Math 204 or 229.
- **390 Undergraduate Research** (IND 0.0-6.0) Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six (6) credit hours allowed for graduation credit. Subject and credit to be arranged with the instructors.
- **400 Special Problems** (IND 0.0-6.0) (Variable) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **401 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- 420 Modern Product Design (LEC 3.0) Modern product development, design and prototyping are examined from a product architecture standpoint in this course. Functional modeling techniques are used to establish the architecture of a product and recently developed theories and techniques for design are covered. A prototyping project is required to provide immediate application of the theories. Prerequisite: Mc Eng/Ae Eng/Eng Mg 350 or Mc Eng 308 or Mc Eng 356. (Co-listed with Mc Eng 461)
- 427 Function-Based Risk Analysis (LEC 3.0) Risk analysis of products and systems will be explored using product functionality as the starting point. Traditional probabilistic risk assessment techniques will be covered along with recent approaches that use historical data to produce automatic risk assessments. Prerequisite: Graduate standing. (Colisted with Sys Eng 427)
- **490 Research** (IND 0.0-9.0) (Variable) Investigations of an advanced nature leading to the preparation of a thesis or dissertation. Consent of instructor required.

Management and Information Systems Courses

- **302 Internship** (IND 1.0-6.0) Internship will involve tudents applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisite: Completed 30 hours toward degree.
- **397 Capstone Seminar in Management and Information Systems** (LEC 3.0) Course will cover issues and problems relating to application and integration of business and management systems skills. Group projects will require work as a member of a team, creative problem-solving and application of business systems principles to real and simulated problems.

Marketing Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in marketing. Prerequisite: Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This is designed to give the department and opportunity to test a new course. Variable title.
- **311 Marketing** (LEC 3.0) The course examines the distribution, product, price, and promotion policies that underlie the activities of marketing institutions and the managerial, economic, and societal implications of such policies.
- **380 Marketing Strategy** (LEC 3.0) Identification and analysis of strategic managerial marketing issues. Integration of marketing concepts through theoretical overview and practical analysis, including extensive use of simulation. Prerequisite: MKT 311 or MKT 407 or Eng Mgt 251.
- **390 Undergraduate Research** (IND 0.0-6.0) Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor. Prerequisite: Consent of instructor required.
- **400 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in marketing. Prerequisite: Consent of instructor required.
- **401 Special Topics** (Variable 0.0-6.0) This is designed to give the department an opportunity to test a new course. Variable title.

- **407 Graduate Marketing and Strategy Essentials** (LEC 1.5) This course is an introduction to the essentials of management information systems for running a business. It is designed for students planning to enter the MBA program. Credit in this course cannot be applied to any major or minor in Business, IST, or Economics. Additional case or report required. Prerequisite: Bachelor Degree.
- 480 Advanced Marketing Strategy (LEC 3.0)
 Identification and analysis of strategic managerial marketing issues. Integration of marketing concepts through theoretical overview and practical analysis, including extensive use of simulation. Independent work on marketing project. Prerequisite: MKT 310 or MKT 407 or Eng Mgt 251.
- **490 Research** (IND 0.0-15.0) Investigations of an advanced nature. Prerequisite: Consent of instructor required.

Music Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **310 Symphonic Bands** (LAB 1.0) An auditioned ensemble. Students perform music for wind ensemble and large bands. Music from 1400-present is performed in a concert setting. Prerequisite: Consent of instructor audition only.

Philosophy Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects of projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **302 Internship-Philosophy** (IND 0.0-6.0) Internship will involve students applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisites: Any introductory (below 100) level philosophy course.
- 305 Contemporary Philosophy (LEC 3.0) An examination of major philosophic movements of the 20th century such as Realism, Pragmatism, Logical Positivism, and Existentialism. Prerequisite: An introductory (below 100) level Philosophy course.
- **320 Minds And Machines** (LEC 3.0) The course will be centered on the topic of artificial intelligence and the problems raised by contemporary attempts to simulate human thinking and perception in

- machines. Special emphasis will be placed on recent developments in psychology, physiology, cybernetics and computer technology. Prerequisite: Any introductory (below 100) level philosophy course.
- **325 Philosophical Ideas In Literature** (LEC 3.0) A systematic study of philosophical problems which appear in literature, with illustrations from selected literary works. Prerequisite: Any introductory (below 100) level philosophy course.
- **330 Philosophy Of Art: Aesthetics** (LEC 3.0) An examination of various theories of aesthetic value and the status of aesthetic judgments. Prerequisite: An introductory (below 100) level Philosophy course.
- **333** American Philosophy (LEC 3.0) A study of American philosophical development with emphasis upon the "Classical Age of American Philosophy", i.e., Pierce, James, Dewey, Royce, Santayana and Whitehead. Prerequisite: An introductory (below 100) level Philosophy course.
- **335 Philosophy Of Religion** (LEC 3.0) A consideration of the major presuppositions of western theism, such as the existence of god and the cognitive meaningfulness of religious language. Prerequisite: Any introductory (below 100) level philosophy course.
- **337 Existentialism** (LEC 3.0) A study of the origin, nature and implications of modern existentialism; selections from major existentialists are read. Prerequisite: An introductory (below 100) level Philosophy course.
- **340 Social Ethics** (LEC 3.0) Discussion of ethical issues confronting society and the arguments offered for alternative laws and public policies. Topics might include: freedom of speech/action, government regulation, welfare, capital punishment, euthanasia, abortion, the environment, affirmative action, just wars, foreign aid, world hunger. Prerequisite: Any lower level ethics course.
- **345 Philosophy Of Science** (LEC 3.0) An examination of the fundamental methods and assumptions of the sciences, with emphasis on scientific reasoning and theories. Prerequisite: Any introductory (below 100) level philosophy course.
- **347 Philosophy Of Language** (LEC 3.0) A study of the contemporary philosophical school of linguistic analysis. Topics will include theories of meaning, reference, the analysis of linguistic acts, the relation of language to thought and the world, the thesis of linguistic relativity (Whorf hypothesis), current theories in psycholinguistics. Prerequisite: Any introductory (below 100) level philosophy course.

- 350 Environmental Ethics (LEC 3.0) Study of the complex moral issues concerning our relationship to the environment and the ethical foundations of our environmental responsibilities. Discussion topics include: conservation, preservation, resource development, pollution, toxic substances, future generations, endangered species, regulation, zoning, takings, etc. Prerequisite: Any introductory (below 100) level philosophy course.
- **354 Mathematical Logic I** (LEC 3.0) A mathematical introduction to logic with some applications. Functional and relational languages, satisfaction, completeness theorems, soundness and compactness theorems. Examples from Mathematics, Philosophy, Computer Science, and/or Computer Engineering. Prerequisite: Philos 15 with junior standing or Math 305 or Comp Sci 253 or Comp Eng 111, (Co-listed with Comp Eng 354, Comp Sci 354 and Math 354)
- **360 Foundations Of Political Conflict** (LEC 3.0) This course is designed as a survey of the philosophical foundation of major political systems. For example, communism, fascism, democracy. Materials will be drawn from relevant historical and/or contemporary sources. Prerequisite: Any introductory (below 100) level Philosophy course.
- 368 Law and Ethics in E-Commerce (LEC 3.0)
 Provides the ethical framework to analyze the ethical, legal, and social issues that arise for citizens and computer professionals regarding the computerization of society. Topics include: free speech, privacy, intellectual property, product liability, and professional responsibility. Prerequisite: Any intro level Philosophy course. (Colisted with IST 368)
- **399 Topics In Philosophy** (LEC 3.0) An intensive course designed for students with a special interest in philosophy. The content of the course may vary and the course may be repeated for additional credit. Prerequisite: An introductory (below 100) level Philosophy course.

Political Science Courses

- **300** Special Problems and Readings (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **302 Political Science Internship** (IND 0.0-6.0) Internship will involve students applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisite: Pol Sc 90 or Pol Sc 235.
- **310 Seminar** (RSD 0.0-6.0) Discussion of current topics Prerequisite: Senior standing.

- **315 Principles Of Public Policy** (LEC 3.0) This course presents a study of public policy in the United States. Students analyze the policy process, the resulting policy choices and the impact of the choices on the American people. Prerequisite: Pol Sc 90.
- 316 The American Presidency (LEC 3.0) Historical development of the presidency; emphasis on the constitutional powers and limits of the office and the political contextual variables which influence presidential behavior. Prerequisite: Pol Sc 90 or Hist 176. (Co-listed with Hist 316)
- 317 Program Analysis And Evaluation (LEC 3.0) An advanced study of major U.S. national policies. A wide range of public policies, including education, economics, and health and welfare will be studied. Students will be introduced to the methods of policy analysis. Emphasis will be placed on the use of tools used by policy analysts to determine program effectiveness and impact. Prerequisite: Pol Sc 90.
- **325 Science, Technology, And Politics** (LEC 3.0) This course will explore the interactions and influences of science and technology upon politics, and of politics upon science and technology. The social and ethical impact of technology and the potential for the democratic management of change will be examined. Prerequisite: Pol Sc 90 or Hist 112 or 175 or 176.
- **335 U.S. Defense Policymaking** (LEC 3.0) This course reviews the evolution of U.S. defense policymaking since World War II, with special emphasis upon strategic policies, weapons systems, and the political processes through which they are selected and implemented. Prerequisite: Pol Sc 90.
- **350 The Politics Of The Third World** (LEC 3.0) This course explores the processes and problems of the developing nations of the world. It examines the internal political processes of third world nations, as well as the position of the third world in international affairs. Prerequisite: Pol Sc 90 or Hist 112 or 175 or 176.
- 383 U.S. Diplomatic History to World War II (LEC 3.0) This course is a history of American foreign relations, broadly conceived, from the War for Independence to WWII. Among other things, it deals with the diplomacy of survival, of expansion and of economic and political hegemony. Prerequisites: Hist 175, 176 or Pol Sc 90. (Co-listed with Hist 383)
- 384 American Diplomatic History Since World War II (LEC 3.0) American Diplomatic History Since World War II will address the major issues in American foreign policy from WWII to the present. Its primary focus is on the Cold War and the post-Cold War problems the U.S. has faced. Prerequisite: History 176 or Pol Sci 90. (Co-listed with History 384)

Premed Course

310 Communication Workshop for the Pre-Health Student (RSD 1.0) This course is for Pre-Medicine students or others interested in careers in the health care industry or graduate studies. Students in this course will learn and develop writing and speaking skills necessary for success in health and science careers. Prerequisite: Junior Standing.

Psychology Courses

- **300** Special Problems And Readings In Psychology (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity tor.
- **302 Internship** (IND 0.0-6.0) Internship will involve students applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisite: Senior status; must have completed 24 hours in major.
- **303 Psychometrics** (LEC 3.0) The application of statistical methods to the study of human behavior in the design and analysis of research and in the measurement of human characteristics and individual differences. Prerequisites: Psych 50 and Psych 140.
- **305 Cognitive Psychology** (LEC 3.0) An examination of the basic cognitive processes and their roles in human intelligence and behavior. Topics include attention, memory, knowledge representation, problem solving, decision making, reasoning, language, and consciousness. Prerequisite: Psych
- **307 Industrial Psychology** (LEC 3.0) A general survey of the field of industrial/organizational psychology including topics such as organizational entry (recruitment, selection, training), involvement and participation (motivation, performance assessment, leadership) and organizational influences on work behavior and work attitudes. Prerequisite: Psych
- **308 Social Psychology** (LEC 3.0) Social basis of behavior of individuals in social stimulus situations. Prerequisite: Psych 50.
- **310** Seminar (RSD 0.0-6.0) Prerequisite: Senior Standing.
- **311 Human Factors** (LEC 3.0) An examination of human-machine systems and the characteristics of people that affect system performance. Topics include applied research methods, systems analysis, and the perceptual, cognitive, physical and social strengths and limitations of human beings. The focus is on user-centered design of

- technology, particularly in manufacturing environments. Prerequisite: Psych 50. (Co-listed with Eng Mg 311)
- 3.0) Practicum In Human Services Psychology (LAB 3.0) Practicum will involve experience in a human service setting. Depending on student background and setting, activities may involve learning psychological testing, interviewing, assessment and/or counseling skills. Prerequisite: Psych 50 and Psych 262 or 364 or 268 or 356 and instructor approval.
- **314 Human-Computer Interaction** (LEC 3.0) Research, theory, and practice from psychology and other social science disciplines have implications for the effective design and use of computers in organizations. This course introduces students to the psychological issues in software engineering, technology in the workplace, and organizational design. Prerequisite: Psych 50.
- **315** Environmental Psychology (LEC 3.0) Study of the psychological effects of different environments and socially relevant problems. Topics covered include: environmental perception, attitudes toward the environment, effects of the environment in work performance, environmental stressors, crowding and the effects of urban environments on interpersonal relations. Prerequisite: Psych 50.
- 316 Psychology of Leadership in Organizations (LEC 3.0) This course will examine the characteristics of effective versus ineffective leadership. Topics will include theories of leadership, measurement issues, leader-member relationships, charismatic, leadership, small group leadership, and strategic leadership in organizations. Practical guidelines for developing leadership skills will be discussed. Prerequisite: General Psychology
- **330 Neuroscience** (LEC 3.0) The neurophysiological bases of behavior and cognition are examined. Topics covered include neuroanatomy, neurophysiology, neurotransmission, neuropharmacology, vision, hearing and language, motivated behavior (e.g. eating, drinking, and sexual behavior), learning and memory, cognition and consciousness, and neurologic/psychiatric disorders. Prerequisite: Psych 50.
- **340 Sensation and Perception** (LEC 3.0) An in-depth examination of the human senses, with special emphasis on vision and hearing. Topics include the anatomy and physiology of the eye and ear, neural transduction, the organization and interpretation of sensory signals by the brain, selective attention, and the neural basis of the perception of color, form, space, depth, motion, music, and language. Prerequisite: Psych 50.
- **342 Comparative Psychology** (LEC 3.0) A survey of the contributions of comparative psychology, ethology, and other disciplines to the understanding of behavior. The major emphasis will be on the genetic, developmental, and social determinants of adaptive behavior patterns.

- **345** Evolutionary Psychology (LEC 3.0) Fundamental principles of evolution, and their applicability to human behavior and psychological processes, will be examined. The course will focus on theoretical rationales for an evolutionary approach to psychology and on looking critically at recent research in the field. Prerequisites: Psych 50 and Psych 140.
- **350 Psychology of Women** (LEC 3.0) A history of the psychology of women with a focus on the latest research and theories in the field (e.g., research methods, gender theories, biological and social factors, communication and leadership styles, nature of interpersonal relationships, and health and mental issues). Prerequisite: Psych 50.
- 354 Psychology Of The Exceptional Child (LEC 3.0)
 An understanding of the abilities and disabilities of children classified as exceptional, the instructional organization utilized to meet the needs of the exceptional child in the classroom, the import of educational and psychological handicaps upon these children. Guest lectures and field trips. Prerequisite: Psych 50. (Co-listed with Educ 354)
- **356 Behavior Modification** (LEC 3.0) Theory and techniques of influencing human behavior through the use of behavior modification and behavior therapy techniques. Applications to normal and abnormal child, adolescent and adult populations will be considered as well as ethical and legal issues. Prerequisite: Psych 50.
- **360 Personality Theory** (LEC 3.0) A comparative examination of theories of personality organization and functioning. Origins of personality; personality development and change; current developments and research in the area of personality. Prerequisite: Psych 50.
- **362 Abnormal Psychology** (LEC 3.0) An introductory study of various forms of personality and behavioral disorders. Consideration will be given to neurosis, psychosis, mental deficiency and other deviations, with emphasis on etiology and treatment. Prerequisite: Psych 50.
- 364 Theory And Practice Of Psychological Testing (LEC 3.0) Theoretical and statistical basis of psychological testing and measurement; characteristics of well-known statistical tests of intelligence, aptitude, interest, academic proficiency, and personality; use of tests and test batteries for prediction of criteria. Prerequisite: Psych 50.
- 368 Clinical Psychology (LEC 3.0) Comprehensive survey of the field of clinical psychology. Course will cover a variety of assessment and treatment procedures relevant to psychology and other professionals who treat human adjustment problems; techniques based on experimental outcome research and psychological testing will be emphasized. Prerequisites: Psych 50 and Psych 262.

- **370 Advanced Social Psychology** (LEC 3.0) An advanced study of the behavior of individuals in interaction within groups. Consideration will also be given to the experimental literature dealing with the formal properties of groups, conformity and deviation, intergroup relations, and attitude formation and attitude change. Prerequisite: Psych 270
- **372 Group Dynamics** (LEC 3.0) Theories of group process. Group structure, functions, interaction, power, norms, and communication. Correlates of cohesiveness and problem solving will be investigated. Prerequisite: Psych 50.
- **374 Organizational Psychology** (LEC 3.0) This course seeks to comprehend and predict human behavior in organizational settings through the scientific study of individual processes, group processes, and organizational structure and function. Prerequisite: Psych 50.
- **375 Health Psychology** (LEC 3.0) This course examines Health Psychology. Topics will include basic behavioral pharmacology (involving alcohol and other drugs), illusions of invulnerability to risk, stress and coping, and the science of persuading people to protect their health. Students will learn how to construct a public service announcement towards a societal problem as part of the course. Prerequisite: Psych 50.
- **376 Sports And Exercise Psychology** (LEC 3.0) Examines psychological theories and research related to sport and exercise behavior by providing a broad overview of topics from the literature of psychology. Prerequisite: Psych 50.
- **378 Social Influence: Science and Practice** (LEC 3.0) Principles and procedures that affect the process of social influence, with consideration given to attitudinal, compliance inducing, and perceptual influences. Prerequisite: General Psychology
- **380** Cross-Cultural Psychology (LEC 3.0) Providing a cross-cultural perspective is an essential element of current curricula in psychology. Students need an understanding of how self-concepts, cognitive abilities and social relations are affected by cultural factors. Prerequisites: Psych 50 and Psych 155 or Psych 270.
- **390 Undergraduate Research** (IND 0.0-6.0)

 Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor.

Russian Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.

- **310 Seminar** (IND 0.0-6.0) Discussion of current topics. Prerequisite: Senior standing.
- **311 Advanced Russian Conversation** (LEC 2.0) Advanced Russian conversation and oral practice. Prerequisite: Russ 110.
- **Russian Civilization** (LEC 3.0) Introduction to Russian history and culture from the 9th to the 20th century exploring the interrelation between Russian society, its history and its cultural expression in painting, literature, music and architecture over the past thousand years. The periods covered include Kievan Russia, the birth of Christianity, the Mongol invasion, Ivan the Terrible, Peter the Great, Catherine the Great, and Imperial Russia. Prerequisite: Hist 112.
- **370 Survey Of Russian Literature I** (Early Period) (LEC 3.0) A study of the history and development of 16th, 17th, 18th, and 19th century Russian literature. Prerequisite: Russ 170.
- **375 Survey Of Russian Literature II(Modern Period)** (LEC 3.0) 20th Century Russian Literature. Prerequisite: Russ 170.
- **402 Elementary Russian For Graduate Students** (IND 0.0) Preparation for reading examinations for the Ph.D. degree.

Sociology Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **310 Seminar** (IND 0.0-6.0) Discussion of current topics. Prerequisite: Senior standing.
- **321 Social Theory** (LEC 2.0 and LAB 1.0) Examination of propositions about society and how and why it functions. Prerequisite: Any 200-level Sociol course.
- **342 Social Investigation** (LEC 3.0) Research methods and their applications in the analysis of society. Prerequisite: Any 200-level Sociol course.
- **380 Social Organization** (LEC 3.0) Analysis of the concept of social organization; structure and functioning of social institutions and the processes of integration and social change; some focus on how people organize themselves in different societies, from simple huntinggathering levels of adaptation to modern industrial states. Prerequisite: Soc 81 or 85.
- **383** Social Science Foreign Area Field Study (LEC 3.0) First hand empirical investigation of problems in a foreign setting. Prerequisite: Any 200-level Sociology course.

Spanish Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects of projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **310 Seminar** (IND 1.0-3.0) Discussion of current topics.
- **311 Advanced Spanish Conversation** (LEC 2.0) Advanced Spanish conversation and oral practice. Prerequisite: Span 110.
- **370 Survey Of Spanish Literature** (LEC 3.0) Survey of Spanish literature from Medieval to Modern Times, including the Renaissance, Siglo De Oro, Enlightenment, Romanticism, and the 20th century. Prerequisite: Span 170 or native ability.
- **371 Survey Of Spanish American Literature** (LEC 3.0) Survey of Spanish American literature from the Conquest to Modern Times, including the Chronicles, Renaissance, Baroque, Neo-clasicism, Romanticism, the Modernistic Movement, and the 20th century. Prerequisite: Span 170 or native ability.
- **377 Spanish-American Novel And Short Story** (LEC 3.0) A study of the development of narrative prose in Spanish America. Prerequisite: Span 170.
- **378 Novela Proletaria** (LEC 3.0) A study of the fiction written during the Great Depression in Latin America, examining principally problems in the exploitation of oil, the mining of minerals, and of urban poverty. Prerequisite: Span 170.
- **379 Literature Of Hispanic Nations** (LEC 3.0) The study of the contemporary literature of Hispanic nations: Chile, Argentina, Mexico, Venezuela, Colombia, Peru or Spain.

Speech and Media Studies Courses

- **300 Special Problems**.(IND 0.0-6.0) Problems or readings on specific subjects of projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.
- **310 Seminar** (IND 0.0-6.0) Discussion of current topics. Prerequisite: Senior standing.
- **390 Undergraduate Research** (IND 0.0-6.0)

 Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six (6) credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor. Prerequisite: Consent of instructor.

232 - Theatre Courses

Theatre Courses

- **300 Special Problems** (IND 0.0-6.0) Problems or readings on specific subjects or projects in the department. Consent of instructor required.
- **301 Special Topics** (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.

