Approved TCC Program Courses

Section 1: Technical Proficiency: 9 credits required from three areas.

Mathematics/Statistics

In addition to Math/Statistics courses at a 200 level or above, the following would qualify:

**COM ARTS 361:** Introduction to Quantitative Research in Communication I, SS
3 credits
Prerequisites: COM ARTS 260
Course Description: An introduction to social science research methods and statistical analyses applicable to the study of communication research and mass media effects.

**GEN BUS 303:** Business Statistics I
3 credits
Prerequisites: 1 sem Calculus; Jr st.
Course Description: Data collection, data structures in a business setting, frequency tables and plots, descriptive statistics, correlation tables and regression formulation, normal and binomial distributions, quality, surveys.

**POLI SCI 551:** Quantitative Analysis of Political Data I or II or SS (Cross-listed with Pub Affr.)
3-4 credits
Prerequisites: So st.
Course Description: Basic statistics course intended to provide students skills essential to read quantitative literature in Political Science and use basic empirical analyses. Fundamentals of probability theory and statistical inference up through bivariate regression and correlation.

**PSYCH 210:** Psychometric Methods I, II, SS
3 credits
Prerequisites: May be taken in conj. with PSYCH 201, 202, or 281; Open to Fr.
Course Description: Measures of central tendency, variability; probability, sampling distributions; hypothesis testing, confidence intervals; t-tests; Chi-square; regression and correlation (linear) and introduction to analysis of variance (1-way).

**SOC 357:** Methods of Sociological Inquiry  (Cross-listed with C & E SOC 357)
3 credits
Prerequisites: Sophomore standing; not open to students who have taken SOC 358
Course Description: Scientific methods and their application in the analysis of society; procedures in testing sociological theory: problem definition, hypothesis construction, collection and evaluation of data.

**SOC 360:** Statistics for Sociologists  (Cross-listed with C & E SOC 360)
4 credits
Prerequisites: Sophomore standing
Course Description: Presentation of sociological data; descriptive statistics; probability theory and statistical inference; estimation and tests of hypotheses; regression and correlation and the analysis of contingency tables; lectures and lab.

Revised 11/13
Computer Science

BUS 371: Technology of Computer Based Business Systems (Cross-listed with COMP SCI 371)
3 credits
Prerequisites: COMP SCI 302 or cons inst.
Course Description: Overview of computers: their attendant technology, and the implications of this technology for large-scale, computer-based information systems. Topics include hardware, system software, program development, files and data communications.

CBE 255: Introduction to Chemical Process Modeling
3 credits
Prerequisites: Math 319 or 310, or concurrent enrollment
Course Description: Introduction to modeling of chemical processes and introduction to using modern computational tools to analyze the models.

COMP SCI 302: Introduction to Programming.
3 credits
Prerequisites: Problem-solving skills such as those acquired in Stats, Logic, or Adv. HS Algebra course, or cons inst. Open to Fr.
Course Description: Instruction and experience in the use of an object-oriented program language. Program design; development of good programming style; preparation for other computer science courses.

3 credits
Prerequisites: Math 222
Course Description: Gives engineering students an introduction to computer and analytical skills to use in their subsequent course work and professional development. Discusses several methods of using computers to solve problems, including elementary Fortran and C programming techniques, the use of spreadsheets, symbolic manipulation languages, and software packages. Techniques will be illustrated using sample problems drawn from elementary engineering. Emphasis on introduction of algorithms with the use of specific tools to illustrate the methods.

LSC COM 532: Web Design for the Sciences
3 credits
Prerequisites: L Sc Com 111 or 130
Course Description: This class gives students an opportunity to design websites that focus on agricultural, life and social sciences. It covers characteristics of web users, science information goals for websites, needs assessment, search strategies, formative evaluations, legal issues.
Note: LSC 532 can be used as either a computer proficiency course or a EPD/TC elective, but it cannot be used as both.

Management/Econ/Business

A A E 374: The Growth and Development of Nations in the Global Economy
3 credits
Prerequisites: Econ 101 or 102; AAE 215, equiv.
Course Description: This course explores the roles of markets, states, and civil institutions, using economic theory, computer simulations, and historical experience to better understand the forces that shape the wealth and well-being of nations and people around the world. (Fall)

Revised 11/13
CIV ENGR 491: Legal Aspects of Engineering
3 credits
Prerequisites: Sr st or cons inst
Course Description: Legal principles and institutions germane to engineering practice; formation and performance of engineer-client and owner-contractor relationships; preparation of technical specifications; surety bonds and insurance; construction liens; contract administration; construction contract remedies; intellectual property of engineers; engineers' obligations to society and their fellow engineers. (Fall/Spring)

CIV ENGR 492: Integrated Project Estimating and Scheduling
3 credits
Prerequisites: Jr st
Course Description: Principles of estimating and scheduling for the construction industry, engineer's preliminary and final estimates' quantity take offs and cost and duration determinations for major items related to a construction project; use manual and computer techniques. (Spring)

CIV ENGR 494: Civil and Environmental Engineering Decision Making
3 credits
Prerequisites: Math 221 or cons inst
Course Description: Planning, designing, and managing civil engineering systems. Fundamentals of the systems approach; marginal analysis; optimization techniques; decision analysis; economic analysis; cost-effectiveness analysis. Case study applications. (Fall/Spring)

CIV ENGR 498: Construction Project Management
3 credits
Prerequisites: Jr st or cons inst
Course Description: Characteristics of Construction Industry; project organizations; the design and construction process; labor, material, and equipment utilization; cost estimation; construction pricing and contracting; construction planning; cost control, monitoring accounting; and management systems construction. (Fall/Spring)

CIV ENGR 570: Environmental Impact of Transportation Systems
3 credits
Prerequisites: Jr st or cons inst
Course Description: Nature of the ecosystem and ecosystem modeling, the nature of transportation produced impacts on man's social, economic, physical and emotional well being, on wildlife, natural areas, agricultural areas; environmental economics; measuring and evaluating environmental quality, and citizen tactics in response to environmental issues.

ECON 301: Intermediate Microeconomic Theory
4 credits
Prerequisites: Any two intro econ courses and one semester calc (Math 221 or 211; Math 221 recommended)
Course Description: Contemporary theory of consumption, production, pricing and resource allocation. (Fall/Spring/Summer)

ECON 302: Intermediate Macroeconomic Theory
4 credits
Prerequisites: Any two intro econ courses and one semester calc (Math 221 or 211; Math 221 recommended)
**Course Description:** Principles and theories of national income determination, analysis of savings, consumption, investment and other aggregates in the national and international economy and relation to employment, inflation and stabilization. (Fall/Spring/Summer)

**ECON 343:** Environmental Economics  
3-4 credits  
Prerequisites: Econ 101 or equiv, or cons inst  
Course Description: Microeconomic principles underlying the use of natural resources such as air, water, forests, fisheries, minerals and energy. These principles are applied in the examination of pollution control, preservation vs. development, deforestation, and other environmental issues. (Spring)

**ECON 467:** International Industrial Organizations  
3 credits  
Prerequisites: Econ 301 or cons inst  
Course Description: Study of competition among firms in an international environment (theoretical analysis and policy applications). Topics include: strategic trade, trade agreements and intellectual property rights issues, R&D and technology transfers, multinational firms. (Fall/Spring/Summer)

**F&W ECOL 590:** Integrated Resource Management  
3 credits  
Prerequisites:  
Course Description: Resource management planning in state and federal land management agencies. Students apply principles by working in teams to develop a management plan for a real property by inventorying resources; developing management objectives and alternatives; and analyzing their ecological, social and institutional implications. (Fall)

**GEN BUS 301:** Business Law  
3 credits  
Prerequisites: Jr or Sr st  
Course Description: History of legal development, contracts, agency, sale of goods, insurance. (Fall/Spring)

**GEN BUS 302:** Business Organizations and Negotiable Instruments  
3 credits  
Prerequisites: Jr or Sr st; Gen Bus 301  
Course Description: Commercial paper, real estate and personal property, partnerships, corporations, bankruptcy. (Fall/Spring)

**GEN BUS 365:** Contemporary Topics  
1-3 credits  
Prerequisites: Prerequisite varies by topic  
Course Description: A course for the exploration of subject areas possibly to be introduced into the business curriculum. (Fall/Spring/Summer)

**GEN BUS 601:** Systems Thinking and Sustainable Businesses  
3 credits  
Prerequisites: Admitted bus student with Jr or Sr st or envir studies student

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**Course Description**: Introduces students to the concept of systems thinking so as to allow them to use systems to bring about large scale social change, both within the business community and within our societal infrastructure. (Spring)

**INTL BUS 200**: International Business  
3 credits  
**Prerequisites**: Econ 101 or 102  
**Course Description**: A survey of the interrelationships of world business operations; an introduction to current conceptual perspectives; cultural, educational, political and economic constraints, the international financial and trade frameworks, and the problems and challenges facing the multinational corporation. (Fall/Spring)

**INTL BUS 320**: Intercultural Communication in Business  
3 credits  
**Prerequisites**: So st  
**Course Description**: Develops awareness and knowledge of cultural influences on business. Focuses on various attitudes toward work, time, material possession, business, and the relationship of these attitudes to different social, religious, philosophical, and educational backgrounds of business people from cultures around the world. (Fall)

**I SY E 313**: Engineering Economic Analysis  
3 credits  
**Prerequisites**: So st  
**Course Description**: Financial accounting principles and cost systems, interpretation and use of accounting reports and supplemental information for engineering economic analyses, consideration of cost-volume-profit analyses, use of discounted cash flow techniques, flexible budgeting, transfer pricing, and capital budgeting. (Fall/Spring)

**I SY E 349**: Introduction to Human Factors  
3 credits  
**Prerequisites**: Intro probability or statistics  
**Course Description**: Design for people-machine interaction, including an introduction to the relevant underlying human sciences. Theory, data, and measurement problems in human information processing, anthropometry, training and industrial safety. Laboratories, discussions, and a design project. (Fall/Spring)

**I SY E 476**: Industrial Engineering Projects  
3 credits  
**Prerequisites**: Ind Engr 320, 321, 349; EPD 397; or cons inst  
**Course Description**: Complete design of an industrial engineering system in a real world setting, e.g., manufacturing, hospital, communications, food processing, distribution, transportation, etc. (Fall/Spring)

**I SY E 515**: Engineering Management of Continuous Process Improvement  
3 credits  
**Prerequisites**: EPD 397 & Sr or Grad st, or cons inst  
**Course Description**: This course addresses the role of the industrial engineer as a "manager" of continuous improvement in design and production processes. It provides modern tools and techniques for planning and managing team projects, integrating the concepts of total quality, data based decision making, and resource management. (Fall)
I SY E 575: Introduction to Quality Engineering
3 credits
Prerequisites: One intro crse in statistical methods, or cons inst
Course Description: Introduction to statistically based quality improvement methods useful in industrial settings; observational methods and design of experiments; experimentation to discover influential factors and to analyze sources of variation; robust products. There will be a one hour discussion section each week. (Fall)

I SY E 652: Sociotechnical Systems
3 credits
Prerequisites: Grad st or IE 349
Course Description: Sociotechnical systems theory with applications to the design of organizations and jobs. Open systems and organizational environments. Analysis of the technical and social systems and techniques for "whole" system consideration. Organizational design strategy. Field site analyses by student teams. (Fall)

I SY E 658: Managing Technological Change in Manufacturing Systems
3 credits
Prerequisites: Bus 753, IE 315, or cons inst. Stdts may not take both IE 658 & Bus 758 for cr
Course Description: Overview of computerized manufacturing technologies and their managerial implications: Manufacturing systems; Manufacturing planning and control; Integration aspects; Performance measures; Adoption considerations; Human aspects and implementation issues. (Fall)

MARKETNG 300: Marketing Management
3 credits
Prerequisites: So, Jr or Sr st; Econ 101
Course Description: Planning and controlling the elements of the marketing program; marketing organization, product and service, packaging, pricing, promotion and physical distribution. (Fall/Spring/Summer)

MARKETNG 310: Marketing Research
3 credits
Prerequisites: So, Jr, or Sr st; Marketing 300; Gen Bus 303 or equiv
Course Description: Systematic and objective search for and analysis of information relevant to the identification and solution of problems in marketing. (Fall/Spring/Summer)

MARKETNG 415: Marketing Communications
3 Credits
Prerequisites: So, Jr, or Sr st; Marketing 300
Course Description: Decision making in the management of communications between the firm and the public. Communications theories, advertising and promotional management. An evaluation of the promotional mix, i.e. personal selling, advertising media, packaging, sales promotion and publicity. (Fall/Spring)

MARKETNG 420: Global Marketing Strategy
3 credits
Prerequisites: So, Jr or Sr st; Marketing 300
Course Description: Structure of foreign trading; commercial facilities available to exporters and importers; application of economic analysis in marketing decisions; contemporary trends in international economy affecting foreign trade policies and practices. (Fall/Spring)

Revised 11/13
M E 314: Manufacturing Fundamentals
3 credits
Prerequisites: Stat 224 & ME 313 or cons inst
Course Description: An introduction to techniques for modeling in materials processing and improving decision making in increasing the productivity of design and manufacturing processes. Quality improvement and engineering simulation tools are presented as well as the methods of engineering economy and the role of manufacturing automation and systems, through lectures and laboratories. (Fall/Spring)

M E 549: Product Design
3 credits
Prerequisites or Corequisites: Sr or Grad st in engr or Grad st in other college or cons inst
Course Description: A project oriented, interdisciplinary course with an emphasis on designing competitive, quality products. The product development process is covered from problem identification through detail design and evaluation. Included among the topics covered are: idea generation and evaluation, visualization, and quality.

M H R 300: Organizational Behavior
3 credits
Prerequisites: So st (not open to Grad students)
Course Description: Attitudes and behavior within organizations. Satisfaction, performance, and job choice; models of organizational behavior and attitudes; use of the models to demonstrate how individual, group, and organizational characteristics influence attitudes and behavior. Implications for supervisory practice. (Fall/Spring/Summer)

M H R 365: Contemporary Topics
3 credits
Prerequisites: So, Jr or Sr st; cons inst. Not open to grad students. Prerequisite varies by topic.
Course Description: A course for the exploration of subject areas possibly to be introduced into the business curriculum.

M H R 420: Managing Change and Organizational Effectiveness
3 credits
Prerequisites: So, Jr or Sr st; MHR 300. Not open to grad students
Course Description: How large and complex organizations are structured, and basic managerial processes within organizations. Topics: Classical bureaucratic structure contrasted with contemporary organization structure; the impact of different organizational goals and environments on the structure of organizations; planning, coordination and control processes as related to different service and production technologies. (Fall/Spring)

M H R 612: Labor-Management Relations
3 credits
Prerequisites: Jr or Sr st; MHR 305 or 705. Open to grad students
Course Description: Labor-management relations at the firm level including its evolution, characteristics and contemporary issues. Emphasis on analysis of the labor-management relationship through reference to theory and research on collective action, bargaining behavior and conflict resolution. (Fall/Spring)

N E 571: Economic and Environmental Aspects of Nuclear Energy
3 credits
Prerequisites: NEEP 405 & NEEP 411

Revised 11/13
Course Description: Economics of the nuclear fuel cycle. Economic and environmental impact the nuclear fuel cycle. Impact on design, plant siting and regulation. (Spring)

OTM 365: Contemporary Topics
3 credits
Prerequisites: Prerequisite varies by topic
Course Description: A course for the exploration of subject areas possibly to be introduced into the business curriculum. (Fall/Spring)

RMI 300: Principles of Risk Management
3 credits
Prerequisites: Econ 101 or equiv or Econ 111 (not open to Grad students)
Course Description: Precedes advanced work in insurance; the nature of risk, principal techniques of risk management and the bases for decision making in management of business and personal risks. (Fall/Spring)

Section 2: Technical Communication Required Courses

- EPD 397: Technical Communication. 3 cr. Offered every semester.
- EPD 497: Technical Editing. 1 cr. Offered every semester.
- EPD 398: Technical Communication Internship. 1 cr. Offered every semester.

Section 3: Technical Communication Electives: minimum 7 credits.

- EPD 151 Technical Information Resources, 1 cr.
- EPD 265 Teams in the Engineering Profession, 1 cr.
- EPD 275 Technical Presentations, 2 cr.
- EPD 374 Intermediate Technical Japanese, 3 cr.
- LSC 532: Web Design for the Sciences, 3 cr. Note: LSC 532 can satisfy the Technical Proficiency in Computer Science but cannot count twice within the TCC.
- EPD 597: Advanced Technical Writing, 3 cr.
- EPD 690: Special Topics
  - The Wisconsin Engineer magazine, 1 cr. (up to 2 credits count toward elective courses in technical communication from EPD)
  - Social and Ethical Impacts of Technology, 1-2 cr.
  - Advanced Writing for Grant Proposals, 1-2 cr.
  - Other EPD 690 sections taught by TC staff as listed.

Note: These EPD courses DO NOT COUNT TOWARDS the TCC:
- EPD 654: Teaching Science and Engineering
- EPD 690: Core Competency in Sustainability
- EPD 690: ATE Powertrain
- EPD 690: Essential Skills for Engineering Productivity

- Independent Study courses: Special credits in Technical Communication (EPD 399, 499). By instructor approval only.

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Section 4: Communication Electives Outside EPD: 3 credits.

Language courses above the 200 level can also fulfill this requirement through a course substitution.

**B M E 400:** Capstone Design Course in Biomedical Engineering
3 credits
**Prerequisites:** BME 301, 310, 315, 430, Sr st in biomed engr or cons inst
**Course Description:** This capstone course applies classroom study to solve a directed client-based biomedical engineering design project. (Fall)

**BSE 375:** Special Topics
1-4 credits
**Prerequisites:** Cons inst
**Course Description:** Based on topic.

**CBE 324:** Transport Phenomena Lab
3 credits
**Prerequisites:** CBE 310 & 320, or con reg; Stat 324
**Course Description:** Determination of thermodynamic properties, transport properties, and transfer coefficients; study of related phenomena. (Fall/Spring)

**CBE 424:** Operations and Process Laboratory
5 credits
**Prerequisites:** CBE 324, 326, 426 & 430; or cons inst
**Course Description:** Experiments in unit operations, and supervised individual assignments selected from areas such as: fluid dynamics, analytical methods, reaction kinetics, plastics technology, and use of computers in data processing and simulation.

**CIV ENGR 578:** Senior Capstone Design
4 credits
**Prerequisites:** Completion of at least 1 crse which carries 3 cr of design
**Course Description:** The application of theoretically and academically acquired knowledge to a civil and environmental engineering problem in as near "real-world" as possible. (Fall/Spring)

**COM ARTS 260:** Communication and Human Behavior
3 credits
**Prerequisites:** Open to Fr. Not open to Seniors
**Course Description:** Concepts and processes relevant to the study of communication and human behavior including approaches to communication inquiry, the dynamics of face-to-face interaction, and the pragmatic and artistic functions of public communication. (Fall/Spring)

**COM ARTS 262:** Theory and Practice of Argumentation and Debate
3 credits
**Prerequisites:** Open to Fr
**Course Description:** Practice in preparation and delivery of various types of argumentative speeches and debates. (Fall/Spring/Summer)

*Revised 11/13*
COM ARTS 263: Speech Composition
3 credits
Prerequisites: Com Arts 100 or 181 or cons inst
Course Description: Application of rhetorical theory to composition, study of model speeches, and writing of speeches.

COM ARTS 266: Theory and Practice of Group Discussion
3 credits
Prerequisites: Open to Fr.
Course Description: Structure and dynamics of small group decision-making. Critical and creative problems in group interaction processes. (Fall/Spring/Summer)

COM ARTS 272: Introduction to Interpersonal Communication
3 credits
Prerequisites: Open to Fr. Only one of the following crsrs may be taken for credit: Com Arts 272, 273.
Course Description: Survey of concepts, theories, and research concerning communication across all phases of interpersonal relationships, focusing on both theoretical and practical applications. (Fall/Spring/Summer)

COM ARTS 355: Introduction to Media Production
4 credits
Prerequisites: So st
Course Description: Theory and practice of media production and screenwriting. (Fall/Spring)

COM ARTS 368: Theory and Practice of Persuasion
3 credits
Prerequisites: So st
Course Description: A theory-based examination of the role of communication in attitude formation and planned social change. Analysis and creation of persuasive messages. (Fall/Spring)

COM ARTS 410: Miscommunication
3 credits
Prerequisites:
Course Description: Problematic aspects of miscommunication in the study of face-to-face interaction. Course helps explain why people often have so much difficulty understanding the intentions, interpretations, and meanings of other people's actions. (Fall/Spring)

COM ARTS 560: Communication Theory
3 credits
Prerequisites: Com Arts 260 or cons inst
Course Description: Introduction and survey of contributions of behavioral science and philosophy to a unified theory of communication. (Fall)

COM ARTS 562: Theories of Deliberation and Controversy
3 credits
Prerequisites: Jr st & Com Arts 262 or cons inst
Course Description: Examination of theories of deliberation and controversy. Application of theories to public controversies.

Revised 11/13
COM ARTS 575: Communication in Complex Organizations
3 credits
**Prerequisites:** Any course in Com Arts with social studies or cons inst
**Course Description:** Theoretical perspectives and research literature in organizational science, with special attention to social interaction.

EMA 469: Design Problems in Engineering
3 credits
**Prerequisites:** EMA 221, 307; ECE 376; ME 363, 361; MS&E 350; or cons inst
**Course Description:** The design philosophy is presented. Students will be required to apply their knowledge of elementary mechanics, engineering and basic science to arrive at acceptable solutions to a variety of design problems. (Fall)

ENGLISH 201: Intermediate Composition
3 credits
**Prerequisites:** Com A. Not open to Fr or auditors
**Course Description:** Provides practice in persuasive writing in various modes, styles, and genres; develops an understanding of the different contexts of writing, both scholarly and public; provides opportunities for exploring the relation between writing and speaking; and provides critical tools for the rhetorical analysis of expository prose. (Fall/Spring/Summer)

ENGLISH 315: Advanced Composition
3 credits
**Prerequisites:** Completion of Com A and Com B; English 100, English 201, or English 203 recommended. Jr or Sr st
**Course Description:** Focuses on developing complex understandings of rhetorical, ethical, and literary strategies for writing. Practice in writing a range of nonfiction genres with attention to varieties of style, context, critical standards, and conventions. Designed for students with a strong interest in writing. May include multi-modal assignments. (Fall/Spring/Summer)

ENGLISH 317: Writing in Workplaces
3 credits
**Prerequisites:** Cons inst; Pref to seniors and English majors. Com A and Com B
**Course Description:** First in a two-course sequence for juniors and seniors who want to develop broader awareness of workplace writing in relation to personal literacy and rhetorical contexts. Practice in producing professional quality texts. Attention to digital writing situations, including writing for the web. Serves as a prerequisite for English 318. (Fall)

ENGLISH 318: Writing Internship
3 credits
**Prerequisites:** English 317 and cons inst
**Course Description:** Practical experience in a workplace setting that requires writing. Minimum 6-10 hours per week plus class meetings. Analysis of professional writing situations and conventions. A final report and reflection connects the internship to previous coursework. May involve multi-modal composition (e.g., digital storytelling). (Spring)

GEN BUS 300: Professional Communication
3-4 credits
**Prerequisites:** So or Jr st. Not open to grad students. This course should be taken within the first two semesters after admission to the School of Business
**Course Description:** Expository writing relative to written communications used in organizations: letters, factual memoranda, brief reports, technical research reports. Development of skills in oral and graphic communications; committee reports, staff presentations. (Fall/Spring/Summer)

**GEN BUS 601:** Systems Thinking and Sustainable Businesses  
3 credits  
**Prerequisites:** Admitted bus student with Jr or Sr st or envir studies student  
**Course Description:** Introduces students to the concept of systems thinking so as to allow them to use systems to bring about large scale social change, both within the business community and within our societal infrastructure. (Spring)

**HIST SCI 201:** The Origins of Scientific Thought  
3 credits  
**Prerequisites:** Open to Fr. Not open to students who have taken ILS 201 or Hist Sci 323, except by cons inst  
**Course Description:** Emergence of scientific method and scientific modes of thought out of ancient philosophical and religious traditions; the impact of ancient science on medieval Christendom; the origins and development of the Copernican-Newtonian world view. (Fall/Spring)

**HIST SCI 202:** The Making of Modern Science  
3 credits  
**Prerequisites:** Not open to students who have had Hist of Sci 204. Open to Fr  
**Course Description:** Major trends and developments in the sciences from the 17th century to the early 20th century. Emphasis on those with broad cultural and social implications. (Fall/Spring)

**HIST SCI 203:** Science in the Twentieth Century: A Historical Overview  
3 credits  
**Prerequisites:** Open to Fr  
**Course Description:** Major themes in the physical, biological and environmental sciences from 1890 to the present, with attention to conceptual development, interaction of science and society, philosophical issues, and personalities in science. (Fall)

**I SY E 476:** Industrial Engineering Projects  
3 credits  
**Prerequisites:** I SY E 320, 321, 349; EPD 397; or cons inst  
**Course Description:** Complete design of an industrial engineering system in a real world setting, e.g., manufacturing, hospital, communications, food processing, distribution, transportation, etc. (Fall/Spring)

**I SY E 515:** Engineering Management of Continuous Process Improvement  
3 credits  
**Prerequisites:** EPD 397 & Sr or Grad st, or cons inst  
**Course Description:** This course addresses the role of the industrial engineer as a "manager" of continuous improvement in design and production processes. It provides modern tools and techniques for planning and managing team projects, integrating the concepts of total quality, data based decision making, and resource management. (Fall)
JOURN 419: Electronic News for Web and Broadcast
4 credits
Prerequisites: Journ 335
Course Description: News reporting, writing, and editing for the World Wide Web and for broadcast; includes interviewing, use of electronic equipment and presentation of webcasts, issues and problems in electronic news, production of webcasts. (Fall/Spring)

JOURN 447: Strategic Media Planning
4 credits
Prerequisites: Journ 345
Course Description: Introduction to media planning for students interested in careers in advertising, public relations, or other forms of strategic communication. (Fall/Spring)

JOURN 515: Public Information Campaigns and Programs
3 credits
Prerequisites: L Sc Com 111 or 130, Sr st & cons inst
Course Description: Design, production and evaluation of communication programs aimed at informing and educating publics about agricultural, environment, science, health and human ecology issues. (Fall/Spring)

JOURN 544: Introduction to Survey Research
3 credits
Prerequisites: Jr st
Course Description: Theory and practice of survey research; planning, sampling, questionnaire construction, interviewing, content analysis, machine tabulation, analysis of data; two hours lecture; two hours lab or field work. (Fall/Spring)

JOURN 559: Law of Mass Communication
4 credits
Prerequisites: Jr st
Course Description: Freedom of speech and press with particular emphasis on major legal issues confronting media practitioners; introduction to such areas of law as censorship, libel, invasion of privacy, access to information, regulation of electronic media and commercial speech. (Fall/Spring)

L I S 450: Information Agencies and Their Environment
3 credits
Prerequisites: Jr st & cons of dept
Course Description: Basic communication theories and models; information users as individuals and as members of groups; production and transmission of information; nature and roles of libraries and other information agencies; the profession of librarianship.

L I S 663: Introduction to Cyberlaw
3 credits
Prerequisites: Jr st & cons inst, or Grad st in SLIS
Course Description: This is an introductory course in the law of cyberspace. The emphasis is on critical thinking about a broad variety of legal and policy problems that arise because of ever-changing information and communication technologies.

Revised 11/13
L SC COM 320: Feature Writing
3 credits
Prerequisites: Ag Journ 111 or equiv. Jr st
Course Description: Advanced writing techniques and in-depth article development, emphasizing agriculture, environment, science, and health topics. (Fall)

L SC COM 350: Visualizing Science and Technology
3 credits
Prerequisites: Ag Journ 111 or Fam Com 130 or cons inst
Course Description: Introduction to the basic principles in the visual communication of science information. Principles of design, perception, cognition as well as the use of technologies in the representation of science in the mass media will be explored through illustrated lectures and written critique. (Fall/Spring)

L SC COM 515: Public Information Campaigns and Programs
3 credits
Prerequisites: L Sc Com 111 or 130, Sr st & cons inst
Course Description: Design, production and evaluation of communication programs aimed at informing and educating publics about agricultural, environment, science, health and human ecology issues. (Fall/Spring)

M E 231: Introductory Engineering Graphics
2 credits
Prerequisites: Pre-admission to College of Engr. Open to Fr
Course Description: A freshman level course which provides the undergraduate engineering student with a background in descriptive geometry, orthographic projection, engineering drawing standards and annotation, and computer-aided engineering graphics. Point line and plane relationships in projection; multi-view engineering drawings; auxiliary and section views; basic dimensioning and annotation; engineering applications. (Fall/Spring)

M E 349: Engineering Design Projects
3 credits
Prerequisites: ME 314, 342 & 364
Course Description: Applied engineering design projects. Emphasis on design of practical mechanical engineering systems, devices and/or components. Two 2-hr labs and one lecture per week. Lecture focuses on the design process, creativity, patents, and other applications to practical problems. (Fall/Spring/Summer)

M E 351: Interdisciplinary Experiential Design Projects I
3 credits
Prerequisites: Sr st in ME or cons inst
Course Description: First of a two-course sequence in which students design and fabricate systems and devices, typically having an interdisciplinary aspect. In the first course, emphasis will be on project planning, team dynamics, problem identification, and conceptual design and evaluation. (Fall/Spring)

M E 352: Interdisciplinary Experiential Design Projects II
3 credits
Prerequisites: ME 351 & Sr st in ME or cons inst
Course Description: Second of a two-course sequence in which students design and fabricate systems and devices, typically having an interdisciplinary aspect. In the second course, emphasis
will be on detailed design, fabrication, testing, and modification of concepts developed in the previous course. (Fall/Spring)

**M H R 365: Contemporary Topics**  
1-3 credits  
**Prerequisites:** So, Jr or Sr st; cons inst. Not open to grad students. Prerequisite varies by topic.  
**Course Description:** A course for the exploration of subject areas possibly to be introduced into the business curriculum.

**M H R 401: The Management of Teams**  
3 credits  
**Prerequisites:** Jr or Sr st; MHR 300. Not open to grad students  
**Course Description:** Examines components that comprise teams, highlights key factors that influence team effectiveness, develops skills in diagnosing opportunities and threats that face teams, and enhances teamwork expertise. (Fall/Spring)

**N E 571: Economic and Environmental Aspects of Nuclear Energy**  
3 credits  
**Prerequisites:** NEEP 405 & NEEP 411  
**Course Description:** Economics of the nuclear fuel cycle. Economic and environmental impact the nuclear fuel cycle. Impact on design, plant siting and regulation. (Spring)

**PHILOS 210: Reason in Communication**  
3-4 credits  
**Prerequisites:** Open to Fr  
**Course Description:** Argument in familiar contexts; emphasis upon developing critical skills in comprehending, evaluating, and engaging in contemporary forms of reasoning, with special attention to the uses of argument in mass communication media. (Fall/Spring/Summer)

**PHILOS 241: Introductory Ethics**  
3-4 credits  
**Prerequisites:** So st  
**Course Description:** Nature of moral problems and of ethical theory, varieties of moral skepticism, practical ethics and the evaluation of social institutions. (Fall/Spring/Summer)

**PHILOS 243: Ethics in Business**  
3-4 credits  
**Prerequisites:** So st  
**Course Description:** Case studies of moral issues in business; types or reasons appealed to for settlement.

**PHILOS 441: Environmental Ethics**  
3-4 credits  
**Prerequisites:** 3 cr philos or envir studies, or Grad st in IES  
**Course Description:** Adequacy of ethical theories in handling such wrongs as harm to the land, to posterity, to endangered species, and to the ecosystem itself. Exploration of the view that not all moral wrongs involve harm to humans. Inquiry into the notion of the quality of life and the ethics of the "lifeboat" situation. (Fall/Spring/Summer)

*Revised 11/13*
**PSYCH 530**: Introductory Social Psychology
3-4 credits
**Prerequisites**: So st and Psych 201 or 202 or 281 or Soc 210 or Anthro 100, Grad students must have cons inst
**Course Description**: The individual in a social context, including motivation, attitudes, conformity, communication, leadership, etc. (Fall/Spring/Summer)

**PSYCH 652**: Sociotechnical Systems
3 credits
**Prerequisites**: Grad st or IE 349
**Course Description**: Sociotechnical systems theory with applications to the design of organizations and jobs. Open systems and organizational environments. Analysis of the technical and social systems and techniques for "whole" system consideration. Organizational design strategy. Field site analyses by student teams. (Fall)

**PSYCH 653**: Organization and Job Design
3 credits
**Prerequisites**: Grad st or IE 349
**Course Description**: Design of productive organizations and people's roles within them. Issues including boundary location, organizational decision levels, autonomous work groups, implementation and diffusion. Roles of the union. Case studies. (Fall/Spring)

**SOC 250**: Organizations and Society
3-4 credits
**Prerequisites**: So st
**Course Description**: Role of organizations, including industrial, governmental, and educational ones, in American society. Topics: impact of organizations on members and clients, the internal dynamics of organizations, and the interchange between organizations and their environment, including the society as a whole. (Fall/Spring)

**SOC 535**: Language and Social Interaction
3 credits
**Prerequisites**: Jr st or cons inst
**Course Description**: Focus on the systematic observation and analysis of face-to-face interaction. Sociological approaches to naturally occurring interaction--i.e., human talk and behavior that has been observed, audierecorded, or videorecorded--will be explored. The approaches include ethnomethodology, conversational analysis, and Goffmanian sociology. (Fall/Spring)