

Entry Level Courses

Resources

<http://catalog.iastate.edu>

<http://classes.iastate.edu>

Credits and Contact Hours

The academic value of each course is stated in semester credits. Each credit is normally earned by attending one (50-minute) hour of lecture or recitation per week for the entire semester, or by attending a laboratory or studio period of two or three hours per week. As a guideline, undergraduate students typically will be expected to spend two hours in preparation outside of class for each lecture or recitation hour; additional outside work may be required for laboratory or studio classes.

Course Prerequisite

A prerequisite indicates the specific academic background or general academic maturity considered necessary for the student to be ready to undertake the course. Course prerequisites are listed in the Schedule of Classes.

A E 170. Engineering Graphics and Introductory Design.
(Cross-listed with BSE). (2-2) Cr. 3. F.S. Prereq: Satisfactory scores in math placement assessments; credit or enrollment in Math 142.

Applications of multi-view drawings and dimensioning. Techniques for visualizing, analyzing, and communicating 3-D geometries. Application of the design process including written and oral reports.

A M D 165. Dress and Diversity in Society.
(3-0) Cr. 3. F.S.SS.

Examination of diversity among consumers and forecasting future trends in consumer behavior. Introduction to social responsibility issues. Meets U.S. Diversity Requirement

AER E 160. Aerospace Engineering Problems With Computer Applications Laboratory.
(2-2) Cr. 3. F.S. Prereq: Satisfactory scores on mathematics placement assessments; credit or enrollment in Math 142, 165

Solving aerospace engineering problems and presenting solutions through technical reports. Significant figures. SI units. Graphing and curve fitting. Flowcharting. Introduction to material balances, mechanics, electrical circuits, statistics engineering economics, and design. Spreadsheet programs. Introduction to UNIX/LINUX computing environments, and programming in FORTRAN. Team projects.

AESHM 111. Professional Development for AESHM.
(2-2) Cr. 3. F.S.

Career exploration, presentation and professional skills, teamwork and leadership, creativity, critical thinking, technology, and service learning components. Orientation to policies and procedures of university, college, department, and program. Some WWW lectures.

AF AM 201. Introduction to African American Studies.
(3-0) Cr. 3. F.S.

An interdisciplinary introduction to the study of African American culture. Includes history, the social sciences, literature, religion, and the arts, as well as conceptual frameworks for investigation and analysis of the African American experience.

Meets U.S. Diversity Requirement

AFAS 101. Introductory Leadership Laboratory I.
(0-2) Cr. 1.0. F. Prereq: Membership as a cadet in AFROTC

Instruction on Air Force customs and courtesies; drill and ceremonies, issuing military commands, physical training, studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. Offered on a satisfactory-fail basis only.

AFAS 141. Foundations of the United States Air Force.
(1-0) Cr. 1.0. F.

Basic introduction to the United States Air Force and Air Force Reserve Officer Training Corps. Mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, and communication skills.

AFAS 151. Air Force Physical Training.
(0-2) Cr. 1.0. Repeatable. F.S. Prereq: Membership as a cadet in AFROTC

Use of basic military training skills and instruction to develop confidence, leadership, communication skills and physical fitness. The team approach

is utilized in the instruction and application of Air Force physical fitness requirements. Students will learn various Air Force physical fitness techniques as well as how to conduct physical fitness sessions. Full participation in all events will be determined based on student's physical and medical eligibility. Offered on a satisfactory-fail basis only.

AGEDS 110B. Agricultural Studies (Fall only).
(1-0) Cr. 0.5. F.S.

Orientation to the department. Careers in agriculture.

AGRON 110. Professional Development in Agronomy: Orientation.
(0.5-0) Cr. 0.5. F.

Orientation to college life, the profession of agronomy, and the agronomy curriculum.

AGRON 114. Principles of Agronomy.
(2-3) Cr. 3. F.S.

Mullen. A foundation course in agronomy applying crop, soil, and environmental sciences in understanding agricultural systems in the world. Includes introductory concepts of plant, soil, tillage, pest, environmental, and sustainable aspects of crop production. Off-campus version offered through internet by interactive computer courseware.

AGRON 120. Introduction to Renewable Resources.
(Cross-listed with ENV S, NREM). (3-0) Cr. 3. F.S.

Overview of soil, water, plants, and animals as renewable natural resources in an ecosystem context. History and organization of resource management. Concepts of integrated resource management.

AGRON 154. Fundamentals of Soil Science.
(2-2) Cr. 3. F.S. Prereq: Chem 163

Manu. Introduction to physical, chemical, and biological properties of soils, their formation, classification, and distribution. Use of soil survey and computer databank information in balancing agronomic, economic, and environmental concerns in soil management. Credit for only one of Agron 154, 155, or 156 may be applied toward graduation.

AGRON 206. Introduction to Weather and Climate.
(Cross-listed with MTEOR). (3-0) Cr. 3. F.S.

Arritt, Cervato, Hornbuckle. Basic concepts in weather and climate, including atmospheric measurements, radiation, stability, precipitation, winds, fronts, forecasting, and severe weather. Applied topics include global warming, ozone depletion, world climates and weather safety.

AM IN 210. Introduction to American Indian Studies.
(3-0) Cr. 3. F.S.SS.

Introduction to the multidisciplinary aspects of American Indian studies. Topics include literature, the arts, history, anthropology, sociology, education, and contemporary Indian politics. Guest lectures, media presentations, and discussion of assigned readings.

Meets U.S. Diversity Requirement

AN S 101. Working with Animals.
(1-2) Cr. 2. F.S.

A hands-on introductory course in skills for proper care and management of domestic animals. Husbandry skills including health observation, animal movement, identification, management procedures, and environmental assessment are covered.

AN S 110. Orientation in Animal Science and ISU.
Cr. R. F.S.

Orientation to the university and Department of Animal Science. Challenges and opportunities available to the professional animal agriculturalist. Professional goal setting, portfolio development, and development of interpersonal skills in the context of pursuing a career in animal science.

AN S 114. Survey of the Animal Industry.
(2-0) Cr. 2. F.S.SS.

Ways domestic animals serve the basic needs of humans for food, shelter, protection, fuel, and emotional well-being. Terminology, basic structures of the industries surrounding the production, care, and marketing of domestic animals in the U.S.

ANTHR 201. Introduction to Cultural Anthropology.
(3-0) Cr. 3. F.S.SS.

Comparative study of culture as key to understanding human behaviors in different societies. Using a global, cross-cultural perspective, patterns of family life, economic and political activities, religious beliefs, and the ways in which cultures change are examined.

Meets International Perspectives Requirement.

ANTHR 202. Introduction to Biological Anthropology and Archaeology.
(3-0) Cr. 3. F.S.

Human biological and cultural evolution; survey of the evidence from fossil primates, the human fossil record and the archaeological record, as well as living primates; introduction to research methods in archaeology and biological anthropology.

ANTHR 230. Globalization and the Human Condition.
(3-0) Cr. 3. F.S.

An introduction to understanding key global issues in the contemporary world. Focuses on social relations, cultural practices and political-economic linkages among Africa, the Americas, Asia, Europe and the Pacific.

Meets International Perspectives Requirement.

ARCH 221. History of Architecture I.
(Cross-listed with DSN S). (3-0) Cr. 3. F.

Survey of western architectural ideas and practices in their social, cultural, and representational contexts. Comparisons with global examples. Ancient through 1750.

Meets International Perspectives Requirement.

ART H 280. History of Art I.
(Cross-listed with DSN S). (3-0) Cr. 3. F.

Development of the visual arts of western civilization including painting, sculpture, architecture, and crafts; from prehistoric through Gothic.

Meets International Perspectives Requirement.

ART H 292. Introduction to Visual Culture Studies.
(Cross-listed with DSN S). (3-0) Cr. 3. F.S.

An introduction to various topics in visual culture studies. The lecture course will provide students with a creative and intellectual context in which to study historical and contemporary instances of the visual in culture. Individual lectures examine significant trends in the visual arts, mass media, scientific imagery, visual communications, and other areas related to visual literacy and visual representation in local and global contexts. Cross cultural viewpoints and issues of diversity will be presented in relation to visual culture and related fields.

Meets U.S. Diversity Requirement

ASTRO 103. Evening Star.
Cr. 1.0. F.S.

An entirely web-based course covering topics in celestial mechanics ("Rocket science!") for students with little or no previous experience. It combines the geography of the solar system with discussion of methods of traveling to the other planets. The course "lectures" are on-line, interactive units with built-in exercises, hands-on (offline) activities, and layers of help. Graded homework and quizzes are administered via WebCT. Students who take Astro 120 may count credit in only one of Astro 102 or 103 toward graduation.

ASTRO 120. The Sky and the Solar System.
(3-0) Cr. 3. F.S.SS.

For the nonscientist. The sky: constellations; motions of the sun, moon, and planets; seasons and the calendar; eclipses. The solar system: origin and evolution; characteristics of the sun, planets, satellites, comets, meteorites, and asteroids. Extensive use of the planetarium is included. Students who take Astro 120 may count credit in only one of Astro 102 or 103 toward graduation.

ASTRO 150. Stars, Galaxies, and Cosmology.
(3-0) Cr. 3. F.S.

For the nonscientist. Observational aspects of stellar astronomy: motions, distances, sizes, spectra; types of stars; variability; binary systems. Stellar evolution: the birth, life, and death of stars, including supernovae, neutron stars, and black holes. The Milky Way Galaxy: clouds of matter in space, the structure and evolution of our galaxy. Other galaxies, clusters of galaxies, quasars. Theories of the origin of the universe.

BBMB 101. Introduction to Biochemistry.
(1-0) Cr. 1.0. F.

Research activities, career opportunities in biochemistry and biophysics, and an introduction to the structure of biologically important compounds. For students majoring in biochemistry, agricultural biochemistry or biophysics or considering one of these majors.

BIOL 101. Introductory Biology.
(3-0) Cr. 3. F.S.SS.

Life considered at cellular, organism, and population levels. Function and diversity of the living world. Presentation of basic biological principles as well as topics and

issues of current human interest. Intended primarily for nonmajors; available to biology majors for elective credit.

BIOL 110. Introduction to Biology.
Cr. 1.0. F.

Orientation to the scope of the biological sciences, and discussion of professional opportunities. Required of first year biology majors. Offered on a satisfactory-fail basis only.

BIOL 155. Human Biology.
(3-0) Cr. 3. F.S.

A survey course of human biology, including principal structures and functions of the body systems and the diseases and disorders associated with them. Designed to meet general education requirements in natural science. Not recommended for those seeking a career in the allied health professions or for students majoring in life science.

BIOL 173. Environmental Biology.
(Cross-listed with ENV S). (3-0) Cr. 3. F.S.

An introduction to the structure and function of natural systems at scales from the individual to the biosphere and the complex interactions between humans and their environment. Discussions of human population growth, biodiversity, sustainability, resource use, and pollution. Intended primarily for non-majors; available to biology majors for elective credit.

BIOL 211. Principles of Biology I.
(3-0) Cr. 3. F.S. Prereq: High school biology and chemistry or credit or enrollment in Chem 163 or 177

Introduction to the nature of life, including the cellular basis of life; the nature of heredity; evolution; diversity of microbial, plant, and animal life; and principles of ecology. Intended for life science majors. First of core series of required courses for the biology major.

BIOL 212. Principles of Biology II.
(3-0) Cr. 3. F.S. Prereq: 211

Introduction to the nature of life, including the cellular basis of life; energy relationships; the nature of heredity; evolution; form and function of microbial, plant, and animal life.

BIOL 255. Fundamentals of Human Anatomy.
(3-0) Cr. 3. F. Prereq: High School Biology and Chemistry, or Biol 101

An introduction to human anatomy, beginning with cells and tissues, surveying all body systems, relating form to function. Systems covered include: integumentary, bones and joints, muscles, nervous, sensory, endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive. Pre-Medical students should consider Biol 351 for their anatomy background. Not intended for major credit in biology.

BIOL 211L. Principles of Biology Laboratory I.
(0-3) Cr. 1.0. F.S. Prereq: Credit or enrollment in 211

Laboratory to accompany 211.

BIOL 212L. Principles of Biology Laboratory II.
(0-3) Cr. 1.0. F.S. Prereq: credit or enrollment in 212

Laboratory to accompany 212.

BIOL 255L. Fundamentals of Human Anatomy Laboratory.
(0-3) Cr. 1.0. F. Prereq: Credit or enrollment in 255

Investigation of human anatomy using models and dissections of preserved organs and model mammals. Pre-Medical students should consider 351 for their anatomy background. Not intended for major credit in biology.

BSE 170. Engineering Graphics and Introductory Design.
(Cross-listed with A E). (2-2) Cr. 3. F.S. Prereq: Satisfactory scores in math placement assessments; credit or enrollment in Math 142.

Applications of multi-view drawings and dimensioning. Techniques for visualizing, analyzing, and communicating 3-D geometries. Application of the design process including written and oral reports.

BUSAD 101. Orientation.
(1-0) Cr. 0.5. F.S.

First 8 weeks. A required orientation for all College of Business students. Review of college and university requirements, transfer credits, academic planning, university policies and deadlines, and registration procedures. Includes group advising for course selection and registration. Offered on a satisfactory-fail basis only. Either BusAd 101 or 102 may be counted towards graduation.

BUSAD 102. Expanded Orientation.
(1-0) Cr. 1.0. F.S.

A required orientation for all College of Business Students involved with a Business Learning Team. Review of college and university requirements, transfer credits, academic planning, university policies and deadlines and registration procedures. Includes a consideration of various business majors and careers, tools for success in college including writing skills and presentations from employers, alumni and current students. Offered on a satisfactory-fail basis only. Either BusAd 101 or 102 may be counted towards graduation.

BUSAD 150. Computer Competencies for Business.
Cr. R.

Students will demonstrate proficiency in MS Word, Excel, and PowerPoint, as well as the ability to conduct research using the Internet, use WebCT, and communicate via e-mail. Self-paced instruction available for students who are unable to demonstrate appropriate proficiency. Offered on a satisfactory-fail basis only.

C E 160. Engineering Problems with Computational Laboratory.
(2-2) Cr. 3. F.S. Prereq: Math 141, 142 or satisfactory scores on mathematics placement assessments; credit or enrollment in Math 165

Formulation of engineering problems using spreadsheets and Visual Basic for Application for solution. Presenting results using word processing, tables, and graphs. Introduction to engineering economics and statics. Civil engineering examples.

C I 204. Social Foundations of Education in the United States.
(3-0) Cr. 3. F.S.SS.

Introduction to the historical and contemporary landscape of schooling in the United States. Emphasis is placed on topics and tensions in the relationship between school and society (e.g. equity of access to education and competing purposes of education) and the implications of these topics and tensions for teaching and learning in public schools. Designed for prospective teachers.

C R P 253. Survey of Community and Regional Planning.
(3-0) Cr. 3. F.

A historical survey of planning, the nature and problems of urban areas, and the goals, procedures, and results of urban planning.

C E 170. Graphics for Civil Engineering.
(0-4) Cr. 2. F.S. Prereq: Math 165, credit or enrollment in C E 105

Fundamental graphics. Introduction to computer aided drafting and modeling. Civil engineering applications.

CHEM 211. Quantitative and Environmental Analysis.
(2-0) Cr. 2. F.S. Prereq: 163 and 163L, credit or enrollment in 178, or 201 and 201L; and concurrent enrollment in 211L

Theory and practice of elementary volumetric, chromatographic, electrochemical and spectrometric methods of analysis. Chemical equilibrium, sampling, and data evaluation. Emphasis on environmental analytical chemistry; the same methods are widely used in biological and materials sciences as well.

CHEM 231. Elementary Organic Chemistry.
(3-0) Cr. 3. F.S.SS. Prereq: 163, 163L, or 177, 177L; credit or enrollment in 231L

A survey of modern organic chemistry including nomenclature, structure and bonding, and reactions of hydrocarbons and important classes of natural and synthetic organic compounds. For students desiring only an elementary course in organic chemistry. Students in physical or biological sciences and premedical or preveterinary curricula should take the full year sequence 331 and 332 (with the accompanying laboratories 331L and 332L). Only one of Chem 231 and 331 or BBMB 221 may count toward graduation.

CHEM 331. Organic Chemistry I.
(3-0) Cr. 3. F.S.SS. Prereq: CHEM 178 or CHEM 201, enrollment in CHEM 331L highly recommended.

The first half of a two semester sequence. Modern organic chemistry including nomenclature, synthesis, structure and bonding, reaction mechanisms. For students majoring in physical and biological sciences, premedical and pre-veterinary curricula, chemistry and biochemistry. Students desiring only one semester of organic chemistry should take 231 and 231L, not 331. Nonmajor graduate credit. Only one of Chem 231 and 331 may count toward graduation.

CHEM 050. Preparation for College Chemistry.
(3-0) Cr. arr. F.S.SS. Prereq: 1 year high school algebra

An in-depth active learning experience designed to impart the fundamental concepts and principles of chemistry, with an emphasis on mathematics skills and logical thinking. For students intending to enroll in general chemistry and who have not taken high school chemistry or who have not had a high school college preparatory chemistry course who need a review of chemical problem solving and chemical concepts. Credit for Chem 50 does not count toward graduation.

CHEM 160. Chemistry in Modern Society.
(3-0) Cr. 3. F.S.

Aspects of chemistry visible to a non-scientist in our society. A survey of selected areas of chemistry with emphasis on the interface between chemistry and other fields of human activity.

CHEM 163. College Chemistry.
(4-0) Cr. 4.0. F.S. Prereq: 1 year of high school algebra and geometry and Chem 50, or 1 year of high school chemistry; and credit or enrollment in 163L

A general survey of chemistry with an emphasis on conceptual problems for those who are not physical and biological science or engineering majors. Nomenclature, chemical reactions, stoichiometry, atomic structure, periodic properties, chemical bonding, states of matter, solutions, thermochemistry, acid-base theory, oxidation-reduction reactions, basic chemical kinetics, and chemical equilibrium. Only one of Chem 163, 167, 177, or 201 may count toward graduation.

CHEM 167. General Chemistry for Engineering Students.
(4-0) Cr. 4.0. F.S. Prereq: Math 140 or high school equivalent and 1 year of high school chemistry or Chem 50

Principles of chemistry and properties of matter explained in terms of modern chemical theory with emphasis on topics of general interest to the engineer. Only one of Chem 163, 167, 177, or 201 may count toward graduation.

CHEM 177. General Chemistry I.
(4-0) Cr. 4.0. F.S.SS. Prereq: Math 140 or high school equivalent, and Chem 50 or 1 year high school chemistry, and credit or enrollment in 177L. Chemistry and biochemistry majors may consider taking 201

The first semester of a two semester sequence which explores chemistry at a greater depth and with more emphasis on concepts, problems, and calculations than 163-164. Recommended for physical and biological science majors, chemical engineering majors, and all others intending to take 300-level chemistry courses. Principles and quantitative relationships, stoichiometry, chemical equilibrium, acid-base chemistry, thermochemistry, rates and mechanism of reactions, changes of state, solution behavior, atomic structure, periodic relationships, chemical bonding. Credit by examination (test-out exams) for 177 is available only to students who are not currently enrolled in the course. Only one of Chem 163, 167, 177, or 201 may count toward graduation.

CHEM 178. General Chemistry II.
(3-0) Cr. 3. F.S.SS. Prereq: CHEM 177, CHEM 177L

Continuation of 177. Recommended for physical or biological science majors, chemical engineering majors, and all others intending to take 300-level chemistry courses. Credit by examination (test-out exams) for 178 is available only to students who are not currently enrolled in the course.

CHEM 201. Advanced General Chemistry.
(5-0) Cr. 5.0. F. Prereq: MATH 140 or high school equivalent, one year of high school chemistry, and one year high school physics or advanced chemistry. Co-enrollment in CHEM 201L.

A one semester course in general chemistry designed to give students an in-depth, broad-based view of modern chemistry, and, in part, to facilitate participation in independent undergraduate research. Topics include stoichiometry, atomic and molecular structure, chemical bonding, kinetics, chemical equilibria, and thermodynamics. Discussion of current trends in various chemical disciplines, which may be given by guest experts in chemistry, biochemistry, and chemical engineering, will help the student appreciate the scope of the chemical sciences and how research is carried out. Only one of Chem 163, 167, 177, or 201 may count toward graduation.

CHEM 163L. Laboratory in College Chemistry.
(0-3) Cr. 1.0. F.S.SS. Prereq: Credit or enrollment for credit in CHEM 163

Laboratory to accompany 1CHEM 63. Must be taken with CHEM 163. Only one of Chem 163L, CHEM 167L, and CHEM 177L may count toward graduation.

CHEM 167L. Laboratory in General Chemistry for Engineering.
(0-3) Cr. 1.0. F.S. Prereq: Credit or enrollment for credit in 167

Laboratory to accompany 167. Only one of Chem 163L, 167L, and 177L may count toward graduation.

CHEM 177L. Laboratory in General Chemistry I.
(0-3) Cr. 1.0. F.S.SS. Prereq: Credit or enrollment for credit in 177

Laboratory to accompany 177. 177L must be taken with 177. 177N: For chemistry and biochemistry majors. Only one of Chem 163L, 167L, and 177L may count toward graduation.

CHEM 177N. Laboratory in General Chemistry I.

(0-3) Cr. 1.0. F.S.SS. Prereq: Credit or enrollment for credit in CHEM 177. For chemistry and biochemistry majors

Laboratory to accompany CHEM 177. CHEM 177N must be taken with CHEM 177. Only one of Chem 163L, CHEM 167L, and CHEM 177N may count toward graduation.

CHEM 178L. Laboratory in College Chemistry II.

(0-3) Cr. 1.0. F.S.SS. Prereq: CHEM 177L and credit or enrollment for credit in CHEM 178

Laboratory to accompany 178. 178L is not a necessary co-requisite with 178.

CHEM 201L. Laboratory in Advanced General Chemistry.

(0-3) Cr. 1.0. Prereq: Credit or enrollment for credit in 201

Laboratory to accompany 201. Introductory lab experience in synthesis and analysis to prepare student for research activities 201L must be taken with 201. Only one of 163L, 167L, 177L, 177N or 201L may count toward graduation.

CHEM 331L. Laboratory in Organic Chemistry I.

(0-3) Cr. 1.0. F.S.SS. Prereq: Credit or enrollment for credit in CHEM 331, CHEM 177L

Laboratory to accompany 331. Chemistry and biochemistry majors are encouraged to take 333L. Only one of Chem 231L and 331L may count toward graduation.

CHIN 101. Elementary Mandarin Chinese I.

(5-0) Cr. 5.0. F.

Introduction to spoken and written colloquial Mandarin through pinyin and simplified characters.

CHIN 201. Intermediate Mandarin Chinese I.

(5-0) Cr. 5.0. F. Prereq: 102

Development of speaking, writing, reading, and listening skills. Review and expansion of grammar skills, intensification of character acquisition. Meets International Perspectives Requirement.

CJ ST 240. Introduction to the U.S. Criminal Justice System.

(3-0) Cr. 3. F.

Provides systematic overview of law, police organization and behavior, prosecution and defense, sentencing, the judiciary, community corrections, penology, and capital punishment. The course demonstrates the role of discretion in all of these agencies as well as the sociological influences of age, race, gender, and social class on criminal justice system processes.

CJ ST 241. Youth and Crime.

(Cross-listed with SOC). (3-0) Cr. 3. F. Prereq: 130 or 134

An examination of delinquency that focuses on the relationship between youth as victims and as offenders, social and etiological features of delinquency, the role of the criminal justice system, delinquents' rights, and traditional and alternative ways of dealing with juvenile crime.

CL ST 201. Technical Terminologies in the Professions.

(3-0) Cr. 3. F.S.

Essential vocabulary and concepts in English that are derived from Latin and Ancient Greek. Formation and usage of technical terminology. Cultural influence of the classical languages. Analysis of technical writing.

CL ST 273. Greek and Roman Mythology.

(3-0) Cr. 3. F.SS.

Survey of the legends, myths of the classical world with emphasis on the principal gods, and heroes, and their relation to ancient social, psychological, and religious practices; some attention may be given to important modern theories.

Meets International Perspectives Requirement.

COM S 101. Orientation.

Cr. R. F.S.

Introduction to the procedures and policies of Iowa State University and the Department of Computer Science, test-outs, honorary societies, etc. Issues relevant to student adjustment to college life will also be discussed. Offered on a satisfactory-fail basis only.

COM S 103. Computer Applications.

Cr. 4.0. F.S.SS.

Introduction to computer literacy and applications. Applications: Windows, Internet browser/HTML, word processing, spreadsheets, database management and presentation software. Literacy: history of computing, structure of computers, telecommunications, computer ethics, computer crime, and history of programming languages. No prior computer experience necessary. Course is offered online only. Students must attend an orientation session the first week of class.

COM S 104. Introduction to Computers.

(1.5-1) Cr. 2. F.S.

Offered first 8 weeks and last 8 weeks. Use of personal computer and workstation operating systems and beginning programming. Project-oriented approach to computer operation and programming, including use of tools to aid in programming. Topics from computer history, using basic Windows and Unix tools,

program structure, expression, variables, decision and logic, and iteration. No prior computer experience necessary.

COM S 107. Applied Computer Programming.

(3-0) Cr. 3. F.S.

Introduction to computer programming for non-majors using a language such as the Visual Basic language. Basics of good programming and algorithm development. Graphical user interfaces.

COM S 207. Fundamentals of Computer Programming.

(Cross-listed with MIS). (3-1) Cr. 3. F.S.

Prereq: Math 150 or placement into Math 140/141/142 or higherAn introduction to computer programming using an object-oriented programming language. Emphasis on the basics of good programming techniques and style. Extensive practice in designing, implementing, and debugging small programs. Use of abstract data types. Interactive and file I/O. Exceptions/error-handling. This course is not designed for computer science, software engineering, and computer engineering majors. Credit may not be applied toward graduation for both Com S 207/MIS 207 and Com S 227.

COM S 227. Introduction to Object-oriented Programming.

(3-2) Cr. 4.0. F.S.

An introduction to object-oriented design and programming techniques. Symbolic and numerical computation. Recursion and iteration. Modularity procedural and data abstraction, specifications and subtyping. Object-oriented techniques. Imperative programming. Emphasis on principles of programming and object-oriented design through extensive practice in design, writing, running, debugging, and reasoning about programs. This course is designed for majors. Credit may not be applied toward graduation for both Com S 207 and 227.

COM S 228. Introduction to Data Structures.

(3-1) Cr. 3. F.S. Prereq: C- or better in 227, credit or enrollment in Math 165

An object-oriented approach to data structures and algorithms. Object-oriented analysis, design, and programming, with emphasis on data abstraction, inheritance and subtype polymorphism. Abstract data type specification and correctness. Collections and associated algorithms, such as stacks, queues, lists, trees. Searching and sorting algorithms. Graphs. Data on secondary storage. Analysis of algorithms. Emphasis on object-oriented design, writing and documenting medium-sized programs. This course is designed for majors.

COMST 101. Introduction to Communication Studies.

(3-0) Cr. 3.

An introduction to communication theory, the development and functions of communication, and a survey of interpersonal, small group, organizational, and intercultural communication.

CPR E 131. Introduction to Computer Security Literacy.

(Cross-listed with INFAS). (1-0) Cr. 1.0.

Basic concepts of practical computer and Internet security: passwords, firewalls, antivirus software, malware, social networking, surfing the Internet, phishing, and wireless networks. This class is intended for students with little or no background in information technology or security. Basic knowledge of word processing required. Offered on a satisfactory-fail basis only.

CPR E 185. Introduction to Computer Engineering and Problem Solving I.

(2-2) Cr. 3. Prereq: Credit or enrollment in MATH 141

Introduction to Computer Engineering. Project based examples from computer engineering. Individual interactive skills for small and large groups. Computer-based projects. Solving engineering problems and presenting solutions through technical reports. Solution of engineering problems using a programming language.

DANCE 270. Dance Appreciation.

(3-0) Cr. 3. F.S.SS.

Introduction to the many forms and functions of dance in world cultures. Develop abilities to distinguish and analyze various dance styles. No dance experience required.

DES 230X Design Thinking

Cr. 3 (3-0)

Introduction to the phenomenon of design thinking as it appears in various design fields, including methodologies of reasoning and problem solving; patterns of creativity and individual style; and the interaction of art, science, and technology.

DSN S 102. Design Studio I.

(1-6) Cr. 4.0.

A core design studio course exploring the interaction of two-and three-dimensional design. Emphasis on fundamental skills and ideas shared across design disciplines. Investigation of creative process, visual order and materials, and

development of critical thinking through studio projects and lectures. Includes study of precedents, contemporary design practices and disciplines in their cultural contexts.

DSN S 131. Design Representation.
(1-6) Cr. 4.0.

An introduction to drawing through lecture and studio experiences. Focus on creative problem solving and communication in order to give visual form to ideas. Emphasis on perceptual, conceptual, and evaluative abilities through experiences that build eye, brain, and hand coordination. Explorations include drawing from observation and memory, working at various scales and duration, and using a variety of media and processes.

DSN S 183. Design Cultures.
(3-0) Cr. 3.

A broad-based exploration of the dynamic relationship between design and culture, employing case study method to investigate particular examples of cultural production in contemporary society. Design processes and design works are presented as culturally, economically, environmentally, historically, ideologically, politically, and socially grounded events and artifacts.

DSN S 232. Digital Design Communications.
(3-0) Cr. 3.

Introductory investigations of various digital design media to develop multi-dimensional problem solving, digital communication skills and perceptual sensitivity. Open to all university majors.

DSN S 292. Introduction to Visual Culture Studies.
(Cross-listed with ART H). (3-0) Cr. 3. F.S.

An introduction to various topics in visual culture studies. The lecture course will provide students with a creative and intellectual context in which to study historical and contemporary instances of the visual in culture. Individual lectures examine significant trends in the visual arts, mass media, scientific imagery, visual communications, and other areas related to visual literacy and visual representation in local and global contexts. Cross cultural viewpoints and issues of diversity will be presented in relation to visual culture and related fields.

Meets U.S. Diversity Requirement

E E 185. Introduction to Electrical Engineering and Problem-Solving I.
(2-2) Cr. 3. F.S. Prereq: Credit or enrollment in Math 142

Project based examples from electrical engineering. Systematic thinking process for engineering problem solving. Group problem solving. Mathematical, conceptual and computer based projects. Solving engineering problems and presenting solutions through technical reports and oral presentations. Solutions of engineering problems using computation tools and basic programming.

ECON 101. Principles of Microeconomics.
(3-0) Cr. 3.

Resource allocation, opportunity cost, comparative and absolute advantage. Supply and demand. Marginal analysis. Theories of production and consumption, pricing, and the market system. Perfect and imperfect competition and strategic behavior. Factor markets. Present discounted value.

ECON 102. Principles of Macroeconomics.
(3-0) Cr. 3. Prereq: *ECON 101 recommended*

Measurement of macro variables and general macro identities. Classical models of full employment. Production and growth. Savings and investment. Employment and unemployment. Money, inflation, and price levels. Operation of the U.S. banking system. Fiscal and monetary policy. Elements of international finance.

ECON 235. Introduction to Agricultural Markets.
(3-0) Cr. 3. Prereq: *ECON 101*

Basic concepts and economics principles related to markets for agricultural inputs and products. Overview of current marketing problems faced by farms and agribusinesses, farm and retail price behavior, structure of markets, food marketing channels, food quality and food safety, and the role of agriculture in the general economy. The implications of consumer preferences at the farm level. Introduction to hedging, futures, and other risk management tools.

ECON 101L. Laboratory in Principles of Microeconomics.
(0-2) Cr. 1.0. Prereq: *Concurrent enrollment in the appropriate section of ECON 101*

Discussion of material typically covered in Econ 101. Application of economic principles to real world problems. Economic principles and basic business management concepts applied to decision-making in agribusiness operations.

ENGL 150. Critical Thinking and Communication.
(3-0) Cr. 3. F.S.SS. Prereq: Credit for or concurrent enrollment in Lib 160

Application of critical reading and thinking abilities to topics of civic and cultural importance. Introduction of basic oral, visual, and electronic communication principles to support writing development. Initiation of communication portfolio.

ENGL 201. Introduction to Literature.
(3-0) Cr. 3. Prereq: Credit in or exemption from 150

Study of selected examples of drama, poetry, short fiction, and the novel drawn from both British and American literature. Recommended for nonmajors.

ENGL 205. Popular Culture Analysis.
(Cross-listed with SP CM). (3-0) Cr. 3. F.S. Prereq: Credit in or exemption from 150

Analysis of how information and entertainment forms persuade and manipulate audiences. Study of several forms that may include newspapers, speeches, television, film, advertising, fiction, and magazines. Special attention to verbal and visual devices.

ENGL 225. Survey of British Literature to 1800.
(3-0) Cr. 3. Prereq: 250

Representative works of British literature from the origins to 1800 in historical, cultural, and literary contexts. Will include multiple genres.

ENGL 226. Survey of British Literature since 1800.
(3-0) Cr. 3. Prereq: 250

Representative works from 1800 to the present in historical, cultural, and literary contexts. Will include multiple genres and may include texts that reflect and/or critique the impact and legacy of the British empire on its former colonies, i.e., postcolonial literature.

ENGL 237. Survey of Film History.
(3-0) Cr. 3. F. Prereq: Credit in or exemption from 150

A survey of the history of film, both U.S. and international, from the beginnings in the late nineteenth century to the present.

ENGL 240. Introduction to American Indian Literature.
(Cross-listed with AM IN). (3-0) Cr. 3. F. Prereq: Credit in or exemption from Engl 150

Appreciation of oral and written forms of American Indian literatures. Tropes and techniques in oral, visual and written texts. Focus on the role of American Indians in interdisciplinary approaches to modern social and environmental issues as expressed in literary works.

Meets U.S. Diversity Requirement

ENGL 250. Written, Oral, Visual, and Electronic Composition.
(3-0) Cr. 3. F.S.SS. Prereq: 150 or exemption from 150; sophomore classification or exemption from 150; credit for or concurrent enrollment in Lib 160

Analyzing, composing, and reflecting on written, oral, visual, and electronic (WOVE) discourse within academic, civic, and cultural contexts. Emphasis on supporting a claim and using primary and secondary sources. Continued development of student portfolio.

ENGL 099L. Strategies for Listening.
Cr. arr. F.S. Prereq: Recommendation of English Department; placement in sections L and R is determined by examination; section S is open to all interested international students.

Available P/NP to graduate students at their department's option

ENGL 099R Strategies for Reading.

Recommendation of English Department; placement in sections L and R is determined by examination; section S is open to all interested international students. Available P/NP to graduate students at their department's option

ENGL 101B. Academic English.
(3-0) Cr. 3. F.S. Prereq: Recommendation of English Department; placement in various sections is determined by examination. (See English Requirement for International Students in Index.)

For undergraduates: Completion of English 101 requirement prepares students for English 150. For graduates: Completion of English 101 satisfies the English requirement of the Graduate College. Engl 101 courses are limited to students who are nonnative speakers of English. Credit from Engl 101 does not count toward graduation.

ENGL 101C. Academic English II--Undergraduates.
(3-0) Cr. 3. F.S. Prereq: Recommendation of English Department; placement in various sections is determined by examination. (See English Requirement for International Students in Index.)

For undergraduates: Completion of English 101 requirement prepares students for English 150. For graduates: Completion of English 101 satisfies the English requirement of the Graduate College. Engl 101 courses are limited to students who are nonnative speakers of English. Credit from Engl 101 does not count toward graduation.

ENGR 101. Engineering Orientation.
Cr. R. F.S.

Introduction to the College of Engineering and the engineering profession. Information concerning university and college policies, procedures, and resources. Undeclared sections: Considerations in choosing an engineering curriculum. Opportunities to interact with departments. Declared sections: Introduction to major-specific topics. Offered on a satisfactory-fail basis only.

ENGR 160. Engineering Problems with Computer Applications Laboratory.
(2-2) Cr. 3. F.S.SS. Prereq: MATH 142 or satisfactory scores on mathematics placement examinations; credit or enrollment in MATH 165

Solving engineering problems and presenting solutions through technical reports. Significant figures. Use of SI units. Graphing and curve-fitting. Flowcharting. Introduction to mechanics, statistics and engineering economics. Use of spreadsheet programs to solve and present engineering problems. Solution of engineering problems using computer programming languages. (The honors section includes application of programming to mobile robotics).

ENT 201. Introduction to Insects.
(1-0) Cr. 1.0. F.S.SS.

5 weeks. Classroom section spring only. World Wide Web section of course offered summer and fall semesters. Biological and ecological aspects of insects.

ENT 211. Insects and Society.
(2-0) Cr. 2. F.S. Prereq: ENT 201

11 weeks. Classroom section spring only. World Wide Web section offered fall semester. Holscher. The importance of insects in human well-being. Insect-human interactions. Primarily for nonscience and nonagriculture majors.

ENV S 101. Environmental Geology: Earth in Crisis.
(Cross-listed with GEOL). (3-0) Cr. 3. F.S.

An introduction to geologic processes and the consequences of human activity from local to global scales. Discussion of human population growth, resource depletion, pollution and waste disposal, global warming and ozone depletion, desertification, and geologic hazards such as earthquakes, landslides, flooding, and volcanism.

ENV S 120. Introduction to Renewable Resources.
(Cross-listed with AGRON, NREM). (3-0) Cr. 3. F.S.

Overview of soil, water, plants, and animals as renewable natural resources in an ecosystem context. History and organization of resource management. Concepts of integrated resource management.

ENV S 173. Environmental Biology.
(Cross-listed with BIOL). (3-0) Cr. 3. F.S.

An introduction to the structure and function of natural systems at scales from the individual to the biosphere and the complex interactions between humans and their environment. Discussions of human population growth, biodiversity, sustainability, resource use, and pollution. Intended primarily for non-majors; available to biology majors for elective credit.

ENV S 201. Introduction to Environmental Issues.
(Cross-listed with BIOL, ENSCI). (2-0) Cr. 2. F.S.

Discussion of current and emerging environmental issues such as human population growth, energy use, loss of biodiversity, water resources, and climate change.

FRNCH 101. Elementary French I.
(4-0) Cr. 4.0. F.SS.

Beginning level development of reading, writing, listening comprehension, and speaking in French, within the context of French culture. Credit by examination in the Department of World Languages and Cultures for courses numbered 101, 102, 201, and 202 is available only to students who are not currently enrolled in the course. Credit by examination for other courses in the Department is normally not available.

FRNCH 201. Intermediate French I.
(4-0) Cr. 4.0. F. Prereq: 102

Intermediate level development of reading, writing, listening comprehension, and speaking in French within the context of French culture. Credit by examination in the Department of World Languages and Cultures for courses numbered 101, 102, 201, and 202 is available only to students who are not currently enrolled in

the course. Credit by examination for other courses in the Department is normally not available.

Meets International Perspectives Requirement.

FS HN 101. Food and the Consumer.
(3-0) Cr. 3. F.S. Prereq: High school biology and chemistry or 3 credits each of biology and chemistry

The food system from point of harvest to the consumption of the food by the consumer. Properties of food constituents. Protection of food against deterioration and microbial contamination. Introduction of foods into the marketplace. Processes for making various foods. Government regulations. Use of food additives. Current and controversial topics. Electronic communication from web emphasized for class reports, notes and assignments.

FS HN 110. Professional and Educational Preparation.
(1-0) Cr. 1.0. F.S.

Introduction to professional and educational development within the food science and human nutrition disciplines. Focus is on university and career acclimation, enhancement of communication skills, and portfolio development. Offered on a satisfactory-fail basis only.

FS HN 167. Introduction to Human Nutrition.
(3-0) Cr. 3. F.S.SS. Prereq: High school biology or 3 credits of biology

Understanding and implementing present day knowledge of nutrition. The role of nutrition in the health and well being of the individual and family.

GEOL 100. The Earth.
(3-0) Cr. 3. F.S.SS.

How does the earth work, what is it made of, and how does it change through time? Plate tectonics, Earth materials, landforms, structures, climate, and natural resources. Emphasis on the observations and hypotheses used to interpret earth system processes. Students may also enroll in Geol 100L.

GEOL 101. Environmental Geology: Earth in Crisis.
(Cross-listed with ENV S). (3-0) Cr. 3. F.S.

An introduction to geologic processes and the consequences of human activity from local to global scales. Discussion of human population growth, resource depletion, pollution and waste disposal, global warming and ozone depletion, desertification, and geologic hazards such as earthquakes, landslides, flooding, and volcanism.

GEOL 105. Gems and Gemstones.
(2-0) Cr. 1.0. F.S.

Offered in second half of the semester. Introduction to gems and gemstones, physical and optical properties of gems and gemstones, explanation of where gems come from and how they are found, how to distinguish between synthetic and naturally occurring gems, how the value of gems are determined, and the history of famous gems.

GEOL 109. Exploring Iowa Geology.
(1-0) Cr. 1.0. Repeatable, maximum of 2 times. F.

Introduction to Iowa geology through classroom lectures and up to four Saturday field trips to selected Iowa geological attractions. Students will learn basic geologic concepts such as geologic time, erosion and sedimentation, stratigraphy, glacial geology, and karst topography using Iowa examples.

GEOL 201. Geology for Engineers and Environmental Scientists.
(2-2) Cr. 3. F.

Introduction to Earth materials and processes with emphasis on engineering and environmental applications.

GER 101. Elementary German I.
(4-0) Cr. 4.0. F.SS.

Introduction to German language within the context of German culture; practice in the basic skills.

GER 201. Intermediate German I.
(4-0) Cr. 4.0. F. Prereq: 102

Review of grammar, selected readings, further practice in oral and written communication.

Meets International Perspectives Requirement.

GREEK 101. Elementary Ancient Greek I.
(4-0) Cr. 4.0. F.

Grammar and vocabulary of ancient Greek, within the context of Greek culture; reading knowledge through texts adapted from classical authors.

H S 105. First Aid and Emergency Care.
(1-2) Cr. 2. F.S.

Discussion and application of the basic techniques of administering first aid and cardiopulmonary resuscitation. ARC certification available.

H S 110. Personal and Consumer Health.
(3-0) Cr. 3. F.S.

Physical, mental, and social aspects of health as a basis for understanding and preventing health problems. False and misleading advertising and effects of cultists and faddists on consumer health. Study of legislation and agencies concerned with consumer protection and health insurance.

H SCI 110X. Orientation and Human Sciences Career Exploration.
(1-0) Cr. 1. F.

Orientation and adjustment to the university and college; policies and procedures; academic resources; and development of a long-term curriculum plan. Comprehensive approach to career development; intensive self-analysis; and in-depth examination of majors in Human Sciences. Required for all students declared as Open Option in the College of Human Sciences.

H SCI 150. Dialogues on Diversity.
(1-0) Cr. 1.0. F.S.

An exploration of diversity within the context of the Iowa State University community through understanding human relations issues.

Meets U.S. Diversity Requirement

HD FS 102. Individual and Family Life Development.
(3-0) Cr. 3. F.S.SS.

Development of individuals, families, and their reciprocal relationships as affected by external factors; examined within a framework of life-span developmental tasks.

HD FS 183. Personal Finance in Early Adulthood.
(1-0) Cr. 1.0. F.S.

Introduction to basic concepts and budgeting practices for management of resources and prevention of financial problems commonly associated with college, including credit and student loans. Offered on a satisfactory-fail basis only.

HD FS 239. Housing and Consumer Issues.
(3-0) Cr. 3. F.S.

Introduction to factors affecting housing consumption of individuals and families, including current housing consumer issues related to housing choices, housing context of neighborhoods and communities, housing structure types, and credit and housing finance. Issues such as homelessness, housing discrimination, indoor air quality, accessible design.

Meets U.S. Diversity Requirement

HD FS 240. Literature for Children.
(3-0) Cr. 3. F.S. Prereq: 102 or Psych 230

Evaluation of literature for children, including emphasis on cultural, language, and ability diversity. Roles of literature in the total development of children. Literature selection and use.

Meets U.S. Diversity Requirement

HD FS 276. Human Sexuality.
(3-0) Cr. 3. F.S.SS.

Behavioral, biological, and psychological aspects of human sexuality within the social context of family, culture, and society. Role of sexuality in human development. Critical analysis of media and research. Communication and decision-making skills relating to sexuality issues and relationships.

Meets U.S. Diversity Requirement

HIST 201. Introduction to Western Civilization I.
(3-0) Cr. 3. F.

Western civilization from ancient Mediterranean world to 1500. Social and cultural developments; economic and political ideas and institutions; problems of historical change and continuity.

Meets International Perspectives Requirement.

HIST 207. Chinese Civilization.
(3-0) Cr. 3.

Origins, development, decline and transformation of China from earliest times to present.

Meets International Perspectives Requirement.

HIST 221. Survey of United States History I.
(3-0) Cr. 3. F.

Colonial foundations: revolution, confederation, and constitution; nationalism and democracy; sectional disunity, Civil War, and reunion.

HIST 280. Introduction to History of Science I.

(3-0) Cr. 3. F.

Ideas of nature from ancient Greece to the seventeenth-century scientific revolution.

Meets International Perspectives Requirement.

HORT 121. Home Horticulture.
(2-0) Cr. 2. F.S.

Growing plants in and around the home including requirements for growing house plants; plant propagation; designing and maintaining flower, fruit, and vegetable gardens; lawn, tree, and shrub maintenance.

HORT 122. Hands-On Home Horticulture.
(1-0) Cr. 1.0. F.S.

Demonstration and activities that illustrate principles of growing plants for the home garden. Topics include plant identification, propagation, selection, and management for indoor and outdoor gardens.

HRI 101. Introduction to the Hospitality Industry.
(3-0) Cr. 3. F.

Introduction to the foodservice, lodging, and tourism components of the hospitality industry. Background information, current issues, and future challenges in various segments of the industry.

I E 148. Information Engineering.
(2-2) Cr. 3. F.S. Prereq: Credit or enrollment in Math 142

Development of information solutions for engineering problems. Fundamentals of the software development process. Engineering computations and the human/computer interface. Data models and database development. Program connectivity and network applications.

JL MC 101. Mass Media and Society.
(3-0) Cr. 3. F.S.

Communication models and their application to the mass media; the mass communication process; organization, characteristics and responsibilities of the mass media; media-related professional operations.

JL MC 110. Orientation to Journalism and Communication.
Cr. R. F.S.

Orientation to career opportunities, emphasis areas and requirements in the Greenlee School. Offered on a satisfactory-fail basis only.

KIN 252. Disciplines and Professions in Kinesiology and Health.
(1-0) Cr. 1.0. F.S.

Overview of the various disciplines and professions that comprise the field of Kinesiology (the study of human movement) and help students determine the career option that best fits their interests.

KIN 253. Orientation in Kinesiology and Health.
(1-0) Cr. 1.0. S. Prereq: Concurrent enrollment or credit in 252

Overview of ISU policies and procedures, academic advising operations, degree requirements, program of study planning, and campus resources. Offered on a satisfactory-fail basis only.

LAS 101. Orientation for Open Option and Preprofessional Students.
(1-0) Cr. 0.5. F.S.

First 8 weeks. Self-responsibility and university procedures. LAS general education requirements, ISU departments and programs, time management, academic study skills, adjustment to the university environment. Required of all first year students in the Open Option and Preprofessional Health Programs. Offered on a satisfactory-fail basis only.

LAS 170. Leadership ISU.
(0-2) Cr. 1.0. F. Prereq: Freshman or sophomore classification

An introductory leadership course for first-year and second-year students. Students will gain a basic understanding of leadership skill development and resources available to student leaders at Iowa State University. Course content will be delivered through a variety of methods such as guest speakers, team building exercises, and small group discussions. Students will be expected to complete several out of class assignments to apply the leadership skills they have learned. Offered on a satisfactory-fail basis only.

LAS 211. Introduction to U.S. Latino/a Studies.
(3-0) Cr. 3. S.

In this course, students learn about the history and current lives of the Latino/a peoples in the United States, including Mexican, Cuban, Puerto Rican, Dominican, and South and Central Americans. Students will also learn information specific to Iowa Latino/as. Through readings, class discussions, writing assignments, guest speakers and community-based learning, students will acquire accurate information and a solid understanding of US Latino/as. Students will cover

elements of Latino/a culture including historical, sociological, educational, psychological, economic, and political facets.

Meets U.S. Diversity Requirement

LATIN 101. Elementary Latin I.

(4-0) Cr. 4.0. F.

Grammar and vocabulary of classical Latin, within the context of Roman culture; reading knowledge through texts adapted from classical authors.

LIB 160. Information Literacy.

(1-0) Cr. 1.0. F.S.SS. Prereq: For students whose native language is not English: Completion of ENGL 101 requirement.

Eight-week course required for undergraduate degree. Provides a solid understanding of information literacy and the research process with emphases on finding, evaluating, and using scholarly information; the ethical and legal framework related to information use; and utilization of library discovery tools. To be taken as early as possible in the student's undergraduate career. See course descriptions of ENGL 150 and ENGL 250 for requirements related to LIB 160. Offered on a satisfactory-fail basis only.

LING 119. Introduction to World Languages.

(Cross-listed with WLC). (3-0) Cr. 3.

Study of language diversity and the personal, social and political effects of diversity. Language families, attitudes toward language and language use, language and culture, multilingualism, foreign language learning, written codes, official languages, and language policy.

Meets International Perspectives Requirement.

LING 120. Computers and Language.

(Cross-listed with ENGL). (3-0) Cr. 3.

Introduction to the use of linguistic knowledge in computer applications today and the basic computational techniques used in such applications. The development of these techniques throughout the history of computational linguistics. How the study of language has contributed to the advancement of technology and how certain computational problems have influenced the way linguists study language.

M E 160. Mechanical Engineering Problem Solving with Computer Applications.

(2-2) Cr. 3. F.S. Prereq: Satisfactory scores on Mathematics placement examinations; credit or enrollment in MATH 142, MATH 65.

Solving mechanical engineering problems and presenting solutions through technical reports. Use of computer programming to aid problem solving. Problem solving methodology in engineering. Use of significant figures and SI units. Graphing and curve-fitting. Flowcharting. Introduction to statics, mechanics of materials and thermo-fluids. Only one of M E 160, ENGR 160, C E 160, E E 185 may count towards graduation.

M E 170. Engineering Graphics and Introductory Design.

(2-2) Cr. 3. F.S. Prereq: Satisfactory scores on mathematics placement assessments; credit or enrollment in Math 142

Integration of fundamental graphics, computer modeling, and engineering design. Applications of multiview drawings and dimensioning. Techniques for visualizing, analyzing, and communicating 3-D geometries. Application of the design process including written and oral reports. Freehand and computer methods.

M S 101. Introduction to Military Science.

(1-0) Cr. 1.0. F. Prereq: Concurrent enrollment in M S 101L required

Examines the role of a Cadet in the Army Reserve Officer Training Corps and a Lieutenant in the United States Army. The course explores a military culture whose ultimate success is determined by the character and proficiency of its' leaders. Instruction introduces students to the cultural heritage and history of the U.S. Army. Students will begin to understand the structure of the U.S. Army and how it functions as an organization and institution. The curriculum promotes the development of students' communication skills to enhance their ability to transmit ideas. The class examines how the Army's cultural values drive the development of leadership in the Officer Corps. Hands-on activities enable students to gain insight on the skills and abilities required of cadets and officers interacting with civilians and soldiers.

M S 150. Army Physical Readiness.

(0-3) Cr. 1.0. Repeatable. F.S.

This lab is designed to use basic military skills and instruction to develop confidence, leadership, and physical fitness. The team approach is utilized in the instruction and application of Army physical fitness requirements. Students will learn various Army physical fitness techniques as well as how to conduct physical fitness sessions. Teaching locations include Lied Recreation Center,

Beyer Hall, State Gym as well as around campus. Full participation in all events will be determined based on students physical and medical eligibility.

M S 101L. Basic Leadership Laboratory I.

(0-2) Cr. 1.0. F. Prereq: Concurrent enrollment in M S 101 required

Uses basic military training, missions and scenarios to provide a hands-on method of developing confidence and leadership skills. Students observe and participate in the rotation through various levels of leadership positions at the platoon and squad level within the Army command structure. This concept provides a constant learning environment as they learn to communicate effectively and work as a team while assigned to positions at various levels within the organization. Marching, rifle firing, and tactical patrolling; students gain confidence through rappelling and construction/use of rope bridges; and increase professional knowledge in areas such as first aid, water survival, personal physical fitness, and land navigation. Teaching locations include the ISU Armory, Camp Dodge (National Guard Facility), Pammel Woods (ISU campus), and ISU fitness centers. Full participation in all events will be determined based on students' physical and medical eligibility.

MATH 010. High School Algebra.

(4-0) Cr. arr. F.S.SS.

For students who do not have adequate facility with topics from high school algebra or do not meet the algebra admission requirement. The course is divided into tracks of one- and two-semester lengths. For most students a diagnostic exam will determine which track must be taken. Students will receive a grade in MATH 25 or MATH 30 respectively depending on the level of material covered. Satisfactory completion of MATH 30 is recommended for students planning to take MATH 140 or MATH 151, while MATH 25 is sufficient for MATH 104, MATH 105, MATH 150, MATH 195, STAT 101 or STAT 105. Students must complete MATH 30 to remove a deficiency in the algebra admission requirement. Topics include signed numbers, polynomials, rational and radical expressions, exponential and logarithmic expressions, and equations. Offered on a satisfactory-fail basis only.

MATH 104. Introduction to Probability and Matrices.

(3-0) Cr. 3. F.S. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of high school geometry

Permutations, combinations, probability, binomial and multinomial theorems, matrices, expected value. Either MATH 104 or MATH 150 may be counted toward graduation, but not both.

MATH 105. Introduction to Mathematical Ideas.

(3-0) Cr. 3. F.S. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of high school geometry

Topics from mathematics and mathematical applications with emphasis on their nontechnical content.

MATH 140. College Algebra.

(3-1) Cr. 3. F.S.SS. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra; 1 year of high school geometry

Coordinate geometry, quadratic and polynomial equations, functions, graphing, rational functions, exponential and logarithmic functions, inverse functions, quadratic inequalities. Students in the College of Liberal Arts and Sciences may not count MATH 140, MATH 141, MATH 142, or MATH 195 toward Group III of the General Education Requirements.

MATH 141. Trigonometry.

(2-0) Cr. 2. F.S.SS. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra; 1 year of high school geometry, or enrollment in MATH 140

May be taken concurrently with MATH 140. Trigonometric functions and their inverses, solving triangles, trigonometric identities and equations, graphing. Students in the College of Liberal Arts and Sciences may not count MATH 140, MATH 141, MATH 142, or MATH 195 toward Group III of the General Education Requirements. Only one of MATH 141, MATH 142 may count toward graduation.

MATH 142. Trigonometry and Analytic Geometry.

(2-1) Cr. 3. F.S.SS. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of high school geometry, or enrollment in MATH 140

May be taken concurrently with MATH 140. Trigonometric functions and their inverses, solving triangles, trigonometric identities and equations, graphing, polar coordinates, complex numbers, conic sections, parametric equations. Students in the College of Liberal Arts and Sciences may not count MATH 140, MATH 141, MATH 142, or MATH 195 toward Group III of the General Education Requirements. Only one of MATH 141, MATH 142 may count toward graduation.

MATH 150. Discrete Mathematics for Business and Social Sciences.

(2-1) Cr. 3. F.S.SS. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of high school geometry

Linear equations and inequalities, matrix algebra, linear programming, discrete probability. Either MATH 104 or MATH 150 may be counted toward graduation, but not both.

MATH 151. Calculus for Business and Social Sciences.
(2-1) Cr. 3. F.S.SS. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of high school geometry

Differential calculus, applications to max-min problems, integral calculus and applications. Will not serve as prerequisite for MATH 265 or MATH 266. Only one of MATH 151, MATH 160, the sequence MATH 165-MATH 166, or the sequence MATH 181-MATH 182 may be counted towards graduation.

MATH 160. Survey of Calculus.
(4-0) Cr. 4.0. F.S. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of geometry

Analytic geometry, derivatives and integrals of elementary functions, partial derivatives, and applications. Will not serve as a prerequisite for MATH 265 or MATH 266. Only one of MATH 151, MATH 160, the sequence MATH 165-MATH 166, or the sequence MATH 181-MATH 182 may be counted towards graduation.

MATH 165. Calculus I.
(4-0) Cr. 4.0. F.S.SS. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of geometry, 1 semester of trigonometry or enrollment in MATH 141 or MATH 142

Differential calculus, applications of the derivative, introduction to integral calculus. Only one of Math 151 or 160 or the sequence MATH 165-MATH 166, or the sequence MATH 181-MATH 182 may be counted towards graduation.

MATH 166. Calculus II.
(4-0) Cr. 4.0. F.S.SS. Prereq: Grade of C- or better in MATH 165 or high math placement scores

Integral calculus, applications of the integral, infinite series. Only one of MATH 151, MATH 160, the sequence MATH 165-MATH 166, or the sequence MATH 181-MATH 182 may be counted towards graduation.

MATH 181. Calculus and Mathematical Modeling for the Life Sciences I.
(4-0) Cr. 4.0. F.S. Prereq: Satisfactory performance on placement exam, 2 years of high school algebra, 1 year of high school geometry, 1 semester of trigonometry or enrollment in MATH 141 or MATH 142

Exponential and logarithm functions, difference equations, derivatives, and applications of the derivative. Examples taken from biology. Only one of MATH 151, MATH 160, the sequence MATH 165- MATH 166, or the sequence MATH 181-MATH 182 may be counted towards graduation.

MATH 195. Mathematics for Elementary Education I.
(2-2) Cr. 3. F.S. Prereq: Satisfactory performance on placement exam, 2 years high school algebra, 1 year of high school geometry, enrollment in elementary education or early childhood education

Theoretical and hands-on models, mathematical analysis of: elementary students' thinking, standard and non-standard algorithms, and properties related to whole numbers and whole number operations; linear measurement, and two- and three-dimensional geometric shapes and spatial sense; algebra as it relates to elementary curricula. Students in the College of Liberal Arts and Sciences may not count MATH 140, MATH 141, MATH 142, or MATH 195 toward Group III of the General Education Requirements.

MATH 265. Calculus III.
(4-0) Cr. 4.0. F.S.SS. Prereq: Grade of C- or better in MATH 166 or MATH 166H

Analytic geometry and vectors, differential calculus of functions of several variables, multiple integrals, vector calculus.

MATH 266. Elementary Differential Equations.
(3-0) Cr. 3. F.S.SS. Prereq: Grade of C- or better in MATH 166 or MATH 166H

Solution methods for ordinary differential equations. First order equations, linear equations, constant coefficient equations. Eigenvalue methods for systems of first order linear equations. Introduction to stability and phase plane analysis.

MATH 267. Elementary Differential Equations and Laplace Transforms.
(4-0) Cr. 4.0. F.S.SS. Prereq: Grade of C- or better in MATH 166 or MATH 166H

Same as MATH 266 but also including Laplace transforms and series solutions to ordinary differential equations.

MICRO 101. Microbial World.
(3-0) Cr. 3. F. Prereq: High school biology or equivalent

Introduction to the importance of viruses, bacteria, fungi, archaea and parasites both to humans and to the biosphere. Topics include past and present microbial

impact on humans and society, ecology and diversity of microbes, biotechnology and microbial impact on the biosphere.

MICRO 201. Introduction to Microbiology.
(2-0) Cr. 2. F.S. Prereq: One semester of college-level biology

Selected topics in microbiology with emphasis on the relationship of microorganisms to human and animal health, agricultural technology, and the environment. With written petition to the chair of the supervisory committee, students who obtain a grade of B or better may substitute 201 for 302 in advanced courses.

MTEOR 107. Severe and Hazardous Weather.
(2-0) Cr. 1.0. F.

Understanding of atmospheric processes that play a role in creating severe and hazardous weather. Focus on thunderstorms, tornadoes, hurricanes, floods, blizzards, ice storms, and temperature extremes. Impacts on lives and property.

MTEOR 206. Introduction to Weather and Climate.
(Cross-listed with AGRON). (3-0) Cr. 3. F.S. Arritt, Cervato, Hornbuckle.

Basic concepts in weather and climate, including atmospheric measurements, radiation, stability, precipitation, winds, fronts, forecasting, and severe weather. Applied topics include global warming, ozone depletion, world climates and weather safety.

MUSIC 101. Fundamentals of Music.
(1-2) Cr. 2. F.S. Prereq: Ability to read elementary musical notation
Notation, recognition, execution and analysis of scales, intervals, triads, and rhythm; key signatures; time signatures; transposition. Open to non-majors only.

MUSIC 102. Introduction to Music Listening.
(3-0) Cr. 3. F.S.SS.

Expansion of the music listening experiences for the general student through greater awareness of differences in techniques of listening, performance media, and materials of the art. The course focuses on the elements of music: rhythm, melody, harmony, form, and style, and how these elements are used in musics of different cultures and time periods. Ability to read or perform music not required. Meets International Perspectives Requirement.

MUSIC 111. Wind Ensemble.
(0-3) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students by audition

Emphasis on significant extended compositions for wind and percussion instruments. Performances include formal concerts on campus and the annual tour.

MUSIC 112. Concert Band.
(0-2) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students who have performed on a wind or percussion instrument in high school band or orchestra

Repertoire includes the broad spectrum of band music. Two concerts are presented each semester.

MUSIC 113. Jazz Ensemble.
(0-2) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students by audition

Designed to explore various styles and trends in contemporary jazz.

MUSIC 114A. Marching Band.
(0-5) Cr. 1.0. Repeatable. F.

Membership determined by audition and band application. Auditions held for woodwind, brass, percussion, flag, and twirler positions. Presentation of pre-game and half time shows at each home football game; additional performances are also scheduled on and off campus. Audition information is listed on the band website (www.music.iastate.edu/org/marching).

MUSIC 115. Symphonic Band.
(0-3) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students by audition

Stresses high quality wind literature. Performances include formal concerts on campus.

MUSIC 118. Applied Music: Non-majors.
(0.5-0) Cr. 1.0. Repeatable. F.S.SS. Prereq: Audition, permission of instructor

Applied music for the general student.

MUSIC 141. Lyrica Women's Choir.
(0-3) Cr. 1.0. Repeatable. F.S. Prereq: Open to all female students by audition

Large chorus; emphasis on fundamental vocal and choral skills, wide variety of literature. Campus concerts each semester.

MUSIC 151. Oratorio Chorus.
(0-3) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students by audition

Advanced skills required, high quality literature. Campus concerts each semester, some concerts in conjunction with orchestras. Men's and women's choirs separately and in combination.

MUSIC 151B. Statesmen Men's Choir.
(0-3) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students by audition

Advanced skills required, high quality literature.

Campus concerts each semester, some concerts in conjunction with orchestras. Men's and women's choirs separately and in combination.

MUSIC 161. Iowa State Singers.
(0-5) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students by audition

Concert choir specializing in performance of advanced music literature, Renaissance through contemporary. Campus concerts, annual spring tour.

MUSIC 181. Symphony Orchestra.
(0-4) Cr. 1.0. Repeatable. F.S. Prereq: Open to all students by audition

Reading, preparation, and performance of standard repertoire. Five or six concerts annually plus occasional off-campus appearances.

N S 111. Introduction to Naval Science.

(3-0) Cr. 3. F.

Introduction to the organization, regulations, and capabilities of the US Navy, with emphasis on mission and principal warfare components.

NREM 110. Orientation in Natural Resource Ecology and Management.
Cr. R. F.

Orientation to the University and to the Department of Natural Resource Ecology and Management. Discussion of departmental learning outcomes, strategies for academic success and academic planning. Offered on a satisfactory-fail basis only.

NREM 120. Introduction to Renewable Resources.
(Cross-listed with AGRON, ENV S). (3-0) Cr. 3. F.S.

Overview of soil, water, plants, and animals as renewable natural resources in an ecosystem context. History and organization of resource management. Concepts of integrated resource management.

PHIL 201. Introduction to Philosophy.
(3-0) Cr. 3. F.S.SS.

It has been rumored that the unexamined life is not worth living. Philosophy is an attempt to begin examining life by considering such questions as: What makes us human? What is the world ultimately like? How should we relate to other people? Is there a god? How can we know anything about these questions? Understanding questions of this kind and proposed answers to them is what this course is all about.

PHIL 206. Introduction to Logic and Scientific Reasoning.
(3-0) Cr. 3. F.S.SS.

Basic principles of critical reasoning and argument evaluation. A consideration of basic forms of argumentation in science and everyday life. Application to contemporary issues and controversies.

PHIL 207. Introduction to Symbolic Logic.
(Cross-listed with LING). (3-0) Cr. 3. S.

Introduction to fundamental logical concepts and logical symbolism. Development of natural deduction through first order predicate logic with identity. Applications to arguments in ordinary English and to philosophical issues. Majors should take Phil 207 as early as possible.

PHIL 230. Moral Theory and Practice.
(3-0) Cr. 3. F.S.SS.

Investigation of moral issues in the context of major ethical theories of value and obligation; e.g., punishment, abortion, economic justice, job discrimination, world hunger, and sexual morality. Emphasis on critical reasoning and argument analysis.

PHIL 235. Ethical Issues in A Diverse Society.
(3-0) Cr. 3. S.

This course will examine a range of arguments on diversity issues. Topics will include: the social status of women, the moral status of sexuality and homosexuality, the nature and role of racism in contemporary society, the relationship between biology, gender roles and social status, and various proposals for change from a variety of political perspectives.

Meets U.S. Diversity Requirement

PHYS 101. Physics for the Nonscientist.
(3-0) Cr. 3. F.S.

Survey of the principal areas of both classical and modern physics. Emphasis on the nature of the physical universe and the application of physical principles to life in the modern world. Not suitable to meet a general physics requirement for natural science majors.

PHYS 111. General Physics.
(4-2) Cr. 4.0. F.S.SS. Prereq: 1 1/2 years of high school algebra, 1 year of geometry, 1 semester of trigonometry

General background in physical concepts, principles, and methods for those who do not plan advanced study in physics or engineering. Mechanics, fluids, heat and thermodynamics, vibrations, waves, sound.

PHYS 112. General Physics.
(4-2) Cr. 4.0. F.S.SS. Prereq: 111

General background in physical concepts, principles, and methods for those who do not plan advanced study in physics or engineering. Electricity and magnetism, ray and wave optics, topics in modern physics.

PHYS 115. Physics for the Life Sciences.
(4-0) Cr. 4. F.S. Prereq: high school: 1 1/2 yr. algebra, 1 yr. geometry, 1 semester trigonometry

Emphasis on basic physics principles applied to biological problems. Topics include mechanics, fluids, thermodynamics, heat, light, sound, electricity and magnetism. A coordinated laboratory, Physics 115 laboratory is available.

PHYS 198. Physics of Music.
(2-2) Cr. 3. F.

Introductory level course on sound for nonphysics majors. Properties of pure tones and harmonics; human perception of sound; room acoustics; scales; production, and analysis of musical by voice, string, woodwind, brass, and percussion instruments. Not suitable to meet a general physics requirement for natural science majors

PHYS 221. Introduction to Classical Physics I.
(4.5-1) Cr. 5.0. F.S.SS. Prereq: Credit or enrollment in Math 166

For engineering and science majors. 3 hours of lecture each week plus 3 recitations and 1 laboratory every 2 weeks. Elementary mechanics including kinematics and dynamics of particles, work and energy, linear and angular momentum, conservation laws, rotational motion, oscillations, gravitation. Heat, thermodynamics, kinetic theory of gases; waves and sound.

PHYS 222. Introduction to Classical Physics II.
(4-2) Cr. 5.0. F.S.SS. Prereq: 221, Math 166

3 hours of lecture each week plus 1 recitation and 1 laboratory each week. Electric forces and fields. Electrical currents; DC circuits. Magnetic forces and fields: LR, LC, LCR circuits; Maxwell's equations; ray optics and image formation; wave optics; topics in modern physics.

POL S 215. Introduction to American Government.
(3-0) Cr. 3. F.S.SS.

Fundamentals of American democracy; constitutionalism; federalism; rights and duties of citizens; executive, legislative, and judicial branches of government; elections, public opinion, interest groups, and political parties.

POL S 241. Introduction to Comparative Government and Politics.
(3-0) Cr. 3. F.S.

Basic concepts and major theories; application to selected political systems, including non-western political systems.

Meets International Perspectives Requirement.

POL S 251. Introduction to International Politics.
(3-0) Cr. 3. F.S.

Dynamics of interstate relations pertaining to nationalism, the nation state; peace and war; foreign policy making; the national interest; military capability and strategy; case studies of transnational issues, such as population, food, energy, and terrorism.

Meets International Perspectives Requirement.

PSYCH 101. Introduction to Psychology.
(3-0) Cr. 3. F.S.SS.

Fundamental psychological concepts derived from the application of the scientific method to the study of behavior and mental processes. Applications of psychology.

PSYCH 102. Laboratory in Introductory Psychology.
(0-2) Cr. 1.0. F.S. Prereq: Credit or enrollment in 101

Laboratory to accompany PSYCH 101.

PSYCH 111. Orientation to Psychology.

Cr. 0.5. F.S.

Program requirements and degree/career options. Required of psychology majors. Offered on a satisfactory-fail basis only.

PSYCH 131. Academic Learning Skills.

(0-2) Cr. 1.0. F.S.

Efficient methods of study and reading. Offered on a satisfactory-fail basis only.

PSYCH 230. Developmental Psychology.

(3-0) Cr. 3. F.S.SS.

Life-span development of physical traits, cognition, intelligence, language, social and emotional behavior, personality, and adjustment.

PSYCH 250. Psychology of the Workplace.

(3-0) Cr. 3.

Survey of theories, research methods, and applications of industrial and organizational psychology from the scientist-practitioner approach. Personnel topics include selection, training, and performance appraisal; organizational topics include leadership, motivation, job attitudes and behaviors and organizational climate.

PSYCH 280. Social Psychology.

(3-0) Cr. 3. F.S.SS.

Individual human behavior in social contexts. Emphasis on social judgments and decisions, attitudes, perceptions of others, social influence, aggression, stereotypes, and helping.

RELIG 205. Introduction to World Religions.

(3-0) Cr. 3. F.S.SS.

An introduction to the academic study of religions, including myths, beliefs, rituals, values, social forms. Examples chosen from oral cultures and major religions of the world.

Meets International Perspectives Requirement.

RELIG 210. Religion in America

(3-0) Cr. 3. F.S.SS.

Introductory study of the major beliefs, practices, and institutions of American Judaism, Catholicism, Protestantism, and Islam with emphasis on the diversity of religion in America, and attention to issues of gender, race, and class.

Meets U.S. Diversity Requirement

RELIG 220. Introduction to the Bible.

(3-0) Cr. 3. F.S.

Basic overview of the contents of the Old and New Testament in light of their ancient socio-historical background, and with attention to a variety of interpretations and relevance to modern American society.

RELIG 280. Introduction to Catholicism.

(3-0) Cr. 3. F.

An explanation of the beliefs, spirit, and practices of Roman Catholicism, including its understanding of God, sacramentality, the human person, and community, and its relationship to other forms of Christianity and other world religions.

RUS 101. Elementary Russian I.

(4-0) Cr. 4.0. F.

Introduction to the Russian language, grammar and syntax. Practice in the four basic skills (listening, speaking, reading, and writing) within the context of Russian culture.

RUS 201. Intermediate Russian I.

(4-0) Cr. 4.0. F. Prereq: 102

Thorough review of grammar and growth of vocabulary. Selected readings. Continued use of the four basic skills.

Meets International Perspectives Requirement.

S E 101. Software Engineering Orientation.

Cr. R.

Introduction to the procedures, policies, and resources of Iowa State University and the department of Computer Science and Electrical and Computer Engineering. Information on engineering and computer-based professions.

SOC 115. Orientation to Sociology.

Cr. R. F.S.

Orientation to sociology. A familiarization with University and LAS College requirements and procedures. Occupational tracks and career options open to sociology; introduction to career planning. Recommended during first semester of freshman year, or as soon as possible after transfer into the department. Offered on a satisfactory-fail basis only.

SOC 130. Rural Institutions and Organizations.

(3-0) Cr. 3. F.S.

An introductory analysis of sociological concepts and theories as they relate to rural institutions and organizations. Emphasis on the static structure and function of these institutions and organizations and on their dynamic adaptation to changing societal, environmental, and economic conditions. General sociological principles and perspectives. Credit for only Soc 130 or 134 may be applied toward graduation.

SOC 134. Introduction to Sociology.

(3-0) Cr. 3. F.S.SS.

Social interaction and group behavior with emphasis on the scientific study of contemporary U.S. society, including issues relating to socialization, inequality, and changing rural and urban communities. Analysis of relationships among the institutions of family, religion, political participation, work, and leisure. Credit for only Soc 130 or 134 may be applied toward graduation.

SOC 219. Sociology of Intimate Relationships.

(3-0) Cr. 3. F.S.SS. Prereq: 130 or 134

Analysis of intimate relationships among couples using a sociological perspective. Attention is given to singlehood; dating and courtship; sexuality; mate selection, cohabitation, and marriage. Relationship quality, communication, conflict and dissolution of these types of relationship will also be explored.

SOC 235. Social Problems and American Values.

(3-0) Cr. 3. F.S. Prereq: 130 or 134

Sociological concepts, theories and methods to analyze the causes and consequences of social problems. Social problems discussed may include crime, substance abuse, income inequalities, discrimination, poverty, race relations, health care, family issues, and the environment. How American Culture and values shape societal conditions, public discourse and policy. Meets U.S. Diversity Requirement

SOC 241. Youth and Crime.

(Cross-listed with CJ ST). (3-0) Cr. 3. F. Prereq: 130 or 134

An examination of delinquency that focuses on the relationship between youth as victims and as offenders, social and etiological features of delinquency, the role of the criminal justice system, delinquents' rights, and traditional and alternative ways of dealing with juvenile crime.

SP CM 110. Listening.

(3-0) Cr. 3. F.S.

Theory, principles, and competency development in comprehensive, therapeutic, critical, consumer, and appreciative listening. The impact of listening in relationships and partnerships.

SP CM 205. Popular Culture Analysis.

(Cross-listed with ENGL). (3-0) Cr. 3. F.S. Prereq: Credit in or exemption from Engl 150

Analysis of how information and entertainment forms persuade and manipulate audiences. Study of several forms that may include newspapers, speeches, television, film, advertising, fiction, and magazines. Special attention to verbal and visual devices.

SP CM 212. Fundamentals of Public Speaking.

(3-0) Cr. 3. F.S.SS.

Theory and practice of basic speech communication principles applied to public speaking. Practice in the preparation and delivery of extemporaneous speeches.

SP ED 250. Education of the Exceptional Learner in a Diverse Society.

(3-0) Cr. 3. F.S. Prereq: C I 204

An overview of students with diverse learning needs, including legal foundations. Emphasis on early identification; educational programming, services and strategies; and preparation for community living in a heterogeneous society.

Meets U.S. Diversity Requirement

SPAN 101. Elementary Spanish I.

(4-0) Cr. 4.0. F.SS.

A communicative approach to grammar and vocabulary within the context of Hispanic culture.

SPAN 201. Intermediate Spanish I.

(4-0) Cr. 4.0. F. Prereq: 102 or placement by departmental exam

Intensive review of basic grammar and conversation. Practice in oral and written communication. Development of fluency with idiomatic expressions. Selected readings on culture and literature.

Meets International Perspectives Requirement.

SPAN 297. Intensive Intermediate Spanish.

(4-0) Cr. 4.0. F.S. Prereq: 4 years of high school Spanish, two years of Spanish at a community college, Spanish 201, or equivalent by placement

Bridge course between 200- and 300-level Spanish courses to prepare students for 300 level courses. Focus on application of advanced grammatical concepts. Designed for students who want to continue at the 300 level. Taught in Spanish.

STAT 101. Principles of Statistics.**(3-2) Cr. 4.0. F.S.SS. Prereq: 1 1/2 years of high school algebra**

Statistical concepts in modern society; descriptive statistics and graphical displays of data; the normal distribution; data collection (sampling and designing experiments); elementary probability; elements of statistical inference; estimation and hypothesis testing; linear regression and correlation; contingency tables.

Credit for only one of the following courses may be applied toward graduation: Stat 101, 104, 105, 226.

STAT 104. Introduction to Statistics.**(2-2) Cr. 3. F.S.SS. Prereq: 1 1/2 years of high school algebra**

Statistical concepts and their use in science; collecting, organizing and drawing conclusions from data; elementary probability; binomial and normal distributions; regression; estimation and hypothesis testing. For students in the agricultural and biological sciences. Credit for only one of the following courses may be applied toward graduation: Stat 101, 104, 105, 226.

STAT 105. Introduction to Statistics for Engineers.**(3-0) Cr. 3. F.S. Prereq: Math 165 (or 165H)**

Statistical concepts with emphasis on engineering applications. Data collection; descriptive statistics; probability distributions and their properties; elements of statistical inference; regression; statistical quality control charts; use of statistical software; team project involving data collection, description and analysis. Credit for only one of the following courses may be applied toward graduation: Stat 101, 104, 105, 226. Credit for both Stat 105 and 305 may not be applied for graduation.

THTRE 106. Introduction to the Performing Arts.**(3-0) Cr. 3. F.S.SS.**

An audience oriented, broad-based, team-taught survey of the performing arts which emphasizes theatre and includes segments on television, radio, film, dance, and music.

THTRE 110. Theatre and Society.**(3-0) Cr. 3. F.S.**

An introduction to Theatre focusing on its relationship with society throughout history.

THTRE 251. Acting I.**(3-0) Cr. 3. F.S.**

Theory and practice in fundamentals of acting.

TSM 115. Solving Technology Problems.**(2-2) Cr. 3. F.S. Prereq: Math 140 or higher (can be taken concurrently)**

Solving technology problems and presenting solutions through technical reports. Unit conversions, unit factor method, SI units, significant digits, graphing and curve fitting. Use of spreadsheet programs to solve and present technology problems. Solution of technology problems using computer programming languages.

TSM 116. Introduction to Design in Technology.**(2-2) Cr. 3. F.S.**

2D projections and 3D representations of objects, national and international standards for documentation, manufacturing processes, design projects, and teamwork. Free-hand sketching techniques and parametric solid modeling will be covered.

U ST 104. Personal Career Development.**(2-0) Cr. 2. F.S. Prereq: 12 credits of ISU coursework**

Comprehensive approach to personal career development providing students with the skills and structure to make informed choices about their major and career path. Self-exploration of interests, skills, values, and personality as related to the world of work using a variety of techniques; exploration of majors and occupations; model for major and career decision-making and career goal implementation; exposure to effective job search and interviewing skills and resources.

W S 160. Gender Justice.**(2-0) Cr. 1.0. F.S.**

Half semester course. Examines the socialization process in the United States and how our perspectives are formed. An introduction to patriarchy, sexism, and ally development are explored. Skills to enhance communication

and understanding among women and men will be developed. Offered on a satisfactory-fail basis only.

Meets U.S. Diversity Requirement

W S 201. Introduction to Women's Studies.**(3-0) Cr. 3.**

Introduction to the interdisciplinary field of Women's Studies. Contemporary status of women in the U.S. and worldwide from social, economic, historical, political, philosophical and literary perspectives. Analysis of intersection of gender, race, class, and sexuality. Subject matter includes work, health, sexuality, and violence. Foundation for the other courses in the program.

Meets U.S. Diversity Requirement