Descriptive - Electrical Engineering

Courses

442. Systems Concepts for Biologists
Winter. 3(3-0) Approval of department.
Basic concepts of systems science important to formal analysis and control of biological communities, with emphasis on model building and analysis of behavior through numerical solutions.

610. Introduction to Linear System Theory
Fall. 3(3-0)
A first course in system theory for students from a range of disciplines. Mathematical representation of system variables, transformation and state space method of analysis, introduction to control theory, applications to physical, economic and social systems.

811. System Methodology and Simulation
Winter. 3(3-0) SYS 810, STT 441.
Problem definition, design of abstract models for system variables, simulation of systems described by differential and difference equations, generation of random variables, simulation of discrete object stochastic systems, simulation languages, applications to physical, economic and social systems.

814. Advanced System Methodology and Simulation
Spring. 3(3-0) SYS 811.
Simulation of a class of time-varying distributed parameter processes; organization and design of large simulation models; optimization and parameter estimation in large simulation models; applications to economic, social and biological systems; other topics of current interest.

835. Static Optimization Methods
Summer. 4(4-0) MTH 424.
Linear and nonlinear optimization: examples and applications; Kuhn-Tucker theory; saddle point optimality conditions; algorithms for problems with constraints; unconstrained optimization; introduction to search methods.

843. Ecosystem Analysis, Design and Management
Spring. 3(3-0) SYS 442. Interdepartmental with the Department of Zoology.
Groups of students from various biological and nonbiological disciplines will synthesize and analyze models of selected biological systems. Project should yield information relevant to solution of contemporary ecological problems.

ENGLISH

College of Arts and Letters

091. English for Foreign Students—Stuctures
Fall, Winter, Spring, Summer. 6 credits. 3(3-0) See page A-1 item 3.1 English language proficiency examination.
Pre-professional employment in industry and government related to student's major.

092. English for Foreign Students—Speaking and Listening
Fall, Winter, Spring, Summer. 6 credits. 3(3-0) See page A-1 Item 3.1 English language proficiency examination.
Intensive speaking and listening practice of spoken English in small groups (determined by proficiency). Advanced groups use drill, drill, discussion, and practical conversations.

093. English for Foreign Students—Language Laboratory
Fall, Winter, Spring, Summer. 6 credits. 3(3-0) See page A-1 Item 3.1 English language proficiency examination.
Language laboratory practice in small groups (determined by proficiency). Beginners review and supplement ENG 091, ENG 092. Advanced groups use carefully prepared lectures, speeches, and presentations to practice structures and vocabulary.

094. English for Foreign Students—Roadmap
Fall, Winter, Spring, Summer. 3 credits. 3(3-0) See page A-1 item 3.1 English language proficiency examination.
Intensive and extensive reading in small groups (determined by proficiency). Beginners emphasize vocabulary development and practice in basic structures. Advanced classes include reading skills, wider reading, and specialized vocabulary.

095. English for Foreign Students—Writing
Fall, Winter, Spring, Summer. 3 credits. 3(3-0) See page A-1 item 3.1 English language proficiency examination.
Frequent controlled and free writing in small groups to reduce errors and practice using structures and vocabulary to express ideas. Advanced classes include writing styles used in academic course work.

101. Responses Through Writing
Fall. 3(3-0) Arts and Letters Freshmen only. Students must enroll in and complete ENG 101 satisfactorily to make a substitution for the American Thought and Language requirement.
Writing workshop that concentrates on the students' personal writing voice and on their responses to the things, people, and institutions central to their experience.

102. Writing and Composing
Winter. 3(3-0) ENG 101; Arts and Letters Freshmen only.
A continuation of ENG 101 that develops the emphases of ENG 101 and encourages students to write in more public and objective forms—narrative, critical analysis, and issue-oriented essays.

104. Writing for Science Majors
Fall. 3(3-0) Satisfactory grade in English proficiency exam; College of Natural Science majors. Interdepartmental with the Department of American Thought and Language.
Writing workshop for science students that develops and refines composition ability.

105. The Scientist as Writer
Winter. 3(3-0) ENG 104. Interdepartmental with the Department of American Thought and Language.
Study of various types of writing by scientists—fiction, poetry, and autobiography as well as professional papers and books. Students will write frequently about the readings.

106. Introductory Scientific Writing
Spring. 3(3-0) ENG 105. Interdepartmental with the Department of American Thought and Language.
Writing of popular essays, scientific papers and reports, and other papers related to science.

200H. Honors Work
Fall, Winter, Spring, 1 to 16 credits.
Approval of department.

201. Nature of Language
Fall, Winter, Spring, Summer. 3(3-0)
Varieties of language—phonology and morphology, semantic features of the lexicon; syntax; and dialects—with special reference to American English.

205. Introduction to Shakespeare
Fall, Winter, Spring. 3(3-0) Not applicable to major or minor requirements.
A study of selected plays illustrating the powers of England's greatest writer.