

**Proposed Course Additions, Deletions and Changes
List #1 – Spring 2008**

SCHOOL OF ARTS AND HUMANITIES

Course Deletions:

COMS 325 Video Lab

Justification: Course is no longer offered.

Course Additions:

AMCS 101 Basic Hebrew 1

Units: 4

CS #: 02, 16

Grade Mode: Graded

Hebrew for beginners. Elementary oral expression and fundamentals of grammar, cultural readings and beginning practice in composition.

Justification: To increase the choice of modern language offerings to Sonoma State University students, and to increase the curricular diversity of the American Multicultural Studies Department.

Course Changes:

AMCS 425 Globalization & Race in the United States

Change Course Number: AMCS 475

Justification: To reflect proper course number.

NAMS 399 Special Topics

Change Title: To: Selected Topics: American Indian Women's Literature

Justification: To conform to course content.

THAR 303 Technical Theater Workshop

Change CS#: From 1,2 to 7,8

Justification: Work is assigned outside of classroom and reviewed by instructor. Hours are assigned.

SCHOOL OF EDUCATION

Course Changes:

EDUC 576

Change Units: From 3 to 4.

Justification: New unit value reflects increased emphasis on preparation for Assessment Center, one of the major aspects of the course.

CES 440 Data Communications

Change Description: Lecture, 2 hours; laboratory, 3 hours. The ISO reference model, theoretical basis for data communications, data transmission theory and practice, telephone systems, protocols, networks, internetworks, with examples. Prerequisites: ES 440 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

CES 500 Queuing and Transform Theory

Change Description: Lecture, 3 hours. Review of probability theory, fundamentals of transform theory, Fourier and Z-transforms. Markovian and discrete time queuing systems, single and multi server queuing networks and their applications. The course may require significant lab and/or project activity. Prerequisites: ES 314 or consent of instructor.

Justification: Correction of prerequisites.

CES 510 Intelligent Systems Design

Change Description: Lecture, 3 hours. Introduction to adaptive systems: neural networks, genetic algorithms (GAs), fuzzy logic, simulated annealing, tabu search, etc. Specific topics include perceptions, backpropagation, Hopfield nets, neural network theory, simple GAs, parallel GAs, cellular GAs, schema theory, mathematical models of simple GAs, and using GAs to evolve neural networks. Prerequisites: ES 314 or CES 400 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in ES courses.

CES 512 Theory of Software Systems

Change Description: Lecture, 3 hours. Review of data structures and basic algorithms for sorting, searching and string processing. Basics of logic, formal systems, grammars and automata. Applications to some of the following areas: design of language processing tools (editor, translator etc.), software specification, testing and verification, non-numerical problem solving. The course may require significant lab and/or project activity. Prerequisite: ES 314 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in the ES courses.

CES 514 Data Mining

Change Description: Lecture, 3 hours. Introduction to data models, data warehousing, association-rule mining, searching the Web, Web Mining: Clustering. AI techniques (neural networks, decision trees), applications and case studies. The course may require significant lab and/or project activity. Prerequisite: ES 314 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in the ES courses.

CES 516 High-Performance Computing

Change Description: Lecture, 3 hours. Algorithmic tools and techniques for problems hard to solve on a standard uniprocessor model such as problems involving large data sets or real-time constraints; development of computational models to analyze the requirements and solutions and special hardware based solutions; case studies to illustrate the developed models, tools and techniques. The course may require significant lab and/or project activity. Prerequisite: ES 314 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in the ES courses.

CES 520 Embedded Systems

Change Description: Lecture, 3 hours. Three major topics covered in this course are: controlling specialized I/O devices with particular attention to bit patterns and priority interrupts; waveshapes and measurement tools, both hardware and software; and real time operating systems. Prerequisites: ES 230, 231 and 310 or consent of instructor.

Justification: Correction of prerequisites.

CES 524 Advanced Computer Architecture

Change Description: Lecture, 3 hours. Concept of advanced computing architectures, pipelining; multiprocessing and multiprogramming. Single and multi-stage interconnection networks, applications/algorithms for parallel computers; local and system bus architectures; CPU and computer system performance analysis. The course may require significant lab and/or project activity. Prerequisite: ES 310 or consent of instructor.

Justification: Correction of prerequisites

CES 546 Data Compression

Change Description: Lecture, 3 hours. Information theory, models, lossless compression (statistical, dictionary, static, dynamic, huffman, arithmetic, context-modeling), lossy compression (scalar quantization, vector quantization, differential encoding, subband transform, predictive), compression standards (JPEG, MPEG). Prerequisites: ES 314 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in the ES courses.

CES 546 Data Compression

Change Description: Lecture, 3 hours. Information theory, models, lossless compression (statistical, dictionary, static, dynamic, huffman, arithmetic, context-modeling), lossy compression (scalar quantization, vector quantization, differential encoding, subband transform, predictive), compression standards (JPEG, MPEG). Prerequisites: ES 314 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in ES courses

ES 110 Introduction to Engineering and Laboratory Experience

Change Description: Lecture, 1 hour, Laboratory, 3 hours. This course is designed to introduce principles of engineering to the students and expose them to the electronics and computer lab environment. The students are given opportunity to design and build some simple analog and digital circuits and make measurements using various types of lab equipment.

Justification: Incorrect description in current course catalog.

ES 220 Electric Circuits

Change Description: Lecture, 3 hours. Review of Kirchhoff's laws, circuit design, node and mesh analysis, etc.; Thevenin's theorem, Norton's theorem, steady state and transient analysis, transfer function. AC power and three-phase circuits, Y-Delta equivalents. Multi-port networks, two-port networks with energy storage, ideal transformers. Amplifiers and frequency response, filters. Prerequisites: ES 110 and MATH 211; Corequisite: ES 221 and PHYS 214, or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

ES 221 Electric Circuits Laboratory

Change Description: Laboratory, 3 hours. Laboratory work on material treated in ES 220 emphasizing elementary design principles. Prerequisite: ES 110 and corequisite: ES 220.

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

ES 230 Electronics 1

Change Description: Lecture 3 hours, Laboratory 0 hours. Theory, characteristics and operation of diodes, bipolar junction transistors and MOSFET transistors; analog and digital electronic circuits; design and analysis of analog electronic circuits such as filters, operational amplifiers, single and multistage amplifiers; modeling and simulation using spice/multisim software. Prerequisite: ES 220 and 221 and corequisite: ES 231 or consent of Instructor.

Justification: To make the course meet accreditation requirements by eliminating overlap with ES 220. Digital Circuits and Logic Design courses.

ES 231 Electronics 1 Laboratory

Change Description: Lecture, 0 hours, Laboratory, 3 hours. Laboratory work to accompany ES 230. Computer assisted design of electronic circuits involving devices such as diodes and transistors. Design, building and testing of electronic circuits such as filters, oscillator, amplifiers, etc. Corequisite: ES 230.

Justification: To make the course meet accreditation requirements by eliminating overlap with ES 221: Electric Circuits Laboratory and ES 210: Digital Circuits and Logic Design (laboratory part) courses.

ES 430 Electromagnetic Theory and Applications

Change Description: Lecture, 3 hours. Electrostatics, magnetostatics, electric currents, electromagnetic induction, electric and magnetic fields in matter, Maxwell's equations, retarded potentials radiation reaction, light emission, simple scattering and antenna theory, properties of waveguides, relativistic formulation of electrodynamics, Fourier decomposition of fields. Prerequisites: ES 220, MATH 241 and MATH 261. (Crosslisted with PHYS 430)

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

ES 432 Physical Electronics

Change Description: Lecture, 3 hours. Semiconductor materials, crystal structure and growth; energy bands and charge carriers, conductivity and mobility; metal-semiconductor and p-n junctions; p-n junction diodes, bipolar junction transistors, field-effect transistors, CCD's, photonic devices and integrated circuits. Projects in photolithography; conductivity and contact resistance measurements; I-V and C-V characteristics of diodes; characterization of transistors may be assigned. Prerequisites: ES 230 or consent of Instructor. (Crosslisted with PHYS 475 and CES 432)

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

ES 441 Analog and Digital Communications II

Change Description: Lecture, 2 hours, Laboratory, 3 hours. Digital signals and their transmission, PCM, log-PCM, ADPCM and DM and other low bit rate coders. Digital data transmission, data encoding, clock recovery and BER, data modulation techniques, ASK, FSK, PSK and QAM. Link budgets for satellite, cellular, and cable systems, the effects of noise and bandwidth. Laboratory work. Prerequisite: ES 314 and ES 440 or consent of instructor.

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

ES 443 Intro Optical Fiber Communications

Change Description: Lecture: 3 hours. Principles of light wave propagation, and propagation in an optical fiber, fiber characteristics, O/E and E/O conversions, coupling, WDM, modulation techniques for efficient information transmission, system design. Prerequisite: ES 430 and corequisite: ES 441 or consent of the instructor.

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

ES 465 Data Communications

Change Description: Lecture, 2 hours, Laboratory, 3 hours. The ISO reference model, theoretical basis for data communications, data transmission theory and practice, telephone systems, protocols, networks, internetworks, with examples. Prerequisites: ES 314 and ES 440 or consent of Instructor. (Crosslisted with CS 465 and CES 440)

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

ES 480 Artificial Intelligence

Change Description: A survey of techniques that simulate human intelligence. Topics may include: Pattern recognition, general problem solving, adversarial game-tree search, decision making, expert systems, neural networks, fuzzy logic, and genetic algorithms. Prerequisites: ES 314 or consent of Instructor. (Crosslisted with CS 480)

Justification: Correction of prerequisites to reflect recent changes in ES and BSES curriculum.

MATH 211W Calculus II Workshop

Change Units: From: 1 to 2

MATH 390 Fieldwork and Seminar: Secondary Mathematics Teaching

Change Description: Forty-five hours of observation in middle school, junior high, and/or high school mathematics classrooms, plus seminar meetings. Students begin to view school mathematics from the vantage point of a teacher. Intended primarily for the mathematics majors in the secondary teaching track or students considering a career in this field. This course satisfies the 45 hours of field observation required for acceptance into SSU's Single Subject Credential Program, and initiates the development of the Mathematics Portfolio required for the mathematics majors in the secondary teaching track. CR/NC only.

Prerequisite: CCTC Certificate of Clearance and MATH 161 or consent of instructor.

Justification: The State of California and the SSU Credential Program now require 45 hours of observation, so it seems most efficient to offer these in the one early fieldwork class.

NURS 535 Residency

Change Units: From 5 to 3(535A) & 2(535B)

Change CS#: From 25 to 48

Change Course Number: From 535 to 535A & 535B

Justification: Students are having difficulty getting all the hours in one semester. Students who can do all the residency hours in one semester will take both courses, others will spread over two consecutive semesters.

SCHOOL OF SOCIAL SCIENCES

Course Additions:

ENSP 451 Water Regulation

Units: 3

CS#: 02

Grade Mode: Graded

The regulation of water supply and the quality from all points of view including regulators, industries, scientific agencies, nonprofit organizations, and action agencies. The law management economics and technology of water. Prerequisite: G.E. government requirement.

Justification: The Water Technology graduates tell us they need this and an informal pole of their employers shows the latter agree.

ENSP 425 Restoration Seminar

Units: 3

CS#: 02

Grade Mode: Graded

This seminar focuses on the ideas and theories behind environmental restoration work and asks some critical questions about current challenges in the field: Where did the idea of restoration come from? What are the goals of environmental restoration and how do you know if a project is meeting those goals? What do we really mean by the terms “wilderness”, “native”, “diversity”, and so forth? Do environmental mitigation projects really work? We will also look at several real-world causes of restoration projects through the semester.