

Minutes

Campus Curricula Committee Meeting

October 7, 2008 Meeting

3:00 p.m. Room 117 Fulton Hall

Jerry Bayless, Kate Drowne, Lance Gentry, Angie Huffman, Irina Ivliyeva, Keith Nisbett, Don Sharpsteen, Greg Story (sitting in for John Hogan), and Jennifer Thorpe attended the meeting.

Approval of September 2, 2008 minutes.

**Review of submitted DC forms:**

DC 0300, Mining Engineering, Mineral Process Engineering, approved effective Spring 2009. A proposal to create a new minor in Mineral Process Engineering. **Tabled**

DC 0301, ALP, Theatre, approved effective Fall 2009. A proposal to create a new minor in Theatre. **Tabled**

**Review of submitted CC forms:**

CC 7473, IDE 214, System Modeling/Prototyping. The following changes are effective Fall 2009.

Course Title – Proposed System Modeling

Catalog Description – Proposed: This course examines the modeling and simulation of dynamic systems. The use of bond graphs to represent the essential structure of system models leads to state space equations for performance analysis and design variable selection.

Prerequisites – Present: IDE 105, Math 229, IDE 150

Proposed: IDE 105, Math 204; IDE 150 or ME 160

CC 7474, IDE 215, Jr. Design Project. The following change is approved effective Spring 2009.

Course Title – Proposed: System Prototyping

CC 7475, Math 461, Introduction to Abstract Harmonic Analysis I. The following changes are approved effective Spring 2009.

Course Title – Proposed: Harmonic Analysis I

Catalog Description – Proposed: Fourier series, norm and pointwise convergence of Fourier series, the conjugate and maximal functions, analytic functions in the unit disk and Hardy spaces, interpolation of linear operators and the Hausdorff-Young-Riesz Theorem, Sidon sets.

Prerequisites – Present: Math 305 and Math 385

Proposed: Math 315 and Math 351

CC 7476, Mining Engineering 313, Stage Pyrotechnics and Special Effects. New course approved effective Fall 2009.

Catalog Description: Use of energetic materials in close proximity to audiences. Provide participants with training preparing for Missouri Pyrotechnics Display Operators License. Covers: close proximity indoor and outdoor pyrotechnics and special effects. Working with stage crews and talent, safety and permitting.

Credit Hours: 1 hour lecture, 2 hour lab, Total: 3

Prerequisites: Chem 1. US Citizen or permanent resident (to fulfill the requirements of the SAFE EXPLOSIVE ACT 2003). Resident enrollment at MS&T (e.g. not distance or internet)

CC 7477, Math 462, Introduction to Abstract Harmonic Analysis II. The following changes are approved effective Spring 2009.

Course Title – Proposed: Harmonic Analysis II

Catalog Description – Proposed: Fourier integrals, almost-periodic functions on the real line, Banach algebras, Wiener's Tauberian Theorem and the prime number theorem, the Paley-Wiener Theorems, band-limited functions and Shannon's Theorem, the continuous wavelet transform, discrete wavelet transforms and frames, orthonormal bases of wavelets and multi-resolution analysis.

CC 7478, IST 286, Web and New Media Development and Design. The following change is approved effective Spring 2009.

Course Title – Proposed: Web and Digital Media Development

CC 7479, ERP 246, Introduction to Enterprise Resource Planning. The following change is approved effective Spring 2009.

Prerequisites – Present: IST 141

Proposed: IST 51

CC 7490, English 377, American Gothic. New course approved effective Spring 2009.

Course Description: This course follows the development of gothic/horror literature in the United States for its earliest expression in Phillip Freneau's 18<sup>th</sup> century works through Brockden Brown's late 18c. Gothic novels, to Hawthorne, Melville, and Poe's dark fiction, and finally to modern and contemporary works by Faulkner, O'Connor, Stephen King and others.

Credit Hours: 3 hour lecture

Prerequisites: English 20 and a previous literature course

**Review of submitted EC forms:**

EC 2097, Computer Engineering 301, Electrical Engineering 301, Systems Engineering 301, Evolvable Hardware, approved effective Spring 2009.

Course Description: This course deals with adaptive evolvable systems operating in a changing environment. Components/building blocks approach for the design of evolvable systems and the mathematical theory of evolvable machines and the idea of virtual reconfigurable circuits for the design of more adaptive, competitive and innovative engineering products will be taught.

Credit Hours: 3 hour lecture

Prerequisites: CpE 367 or EE 367

EC 2098, Electrical Engineering 301, Computational Intelligence Methods in Electric Power (CIMEP), approved effective Spring 2009.

Course Description: Review of Computational Intelligence (CI) Methods; CI methods for identification/modeling, control and optimization in electric power networks; load forecasting; wind energy prediction; Harmonic Estimation & Scheduling of power system maintenance.

Credit Hours: 3 hour lecture

Prerequisites: EE 207 or EE 307; EE 301 (Real Time Power System Simulation); EE 367

EC 2099, Electrical Engineering 401, Bioelectrodes and Biosensors, approved effective Spring 2009.

Course Description: Review of the rapidly emerging bioelectronics area. Device structure and operational principles of various bioelectrodes, biosensors, and biofuel cells. The topics include; (1) review of applied electroanalytical methods, (2) review of applied optical methods, (3) review of recent developments in bioelectronic systems, (4) hands-on lab sessions related with these topics.

Credit Hours: 1.5 hour lecture, 1.5 hour lab, Total: 3

Prerequisites: Graduate standing

EC 2100, Electrical Engineering 401, Signal Integrity, High Speed Digital & RF Design Laboratory, approved effective Spring 2009.

Course Description: High-frequency and high-data rate circuits are impacted by layout and component parasitics that can compromise meeting the design specifications. This is a course designed around laboratory experiments and a semester project that emphasizes practical issues in digital and RF circuit layout and design.

Credit Hours: 3 hour lab

Prerequisites: EE 271

EC 2101, Electrical Engineering 401, Advanced Topics in Antenna Analysis & Design, approved effective Spring 2009.

Course Description: Introduction and discussion of advanced antenna design issues including aperture and micro-strip antennas including simulation, design, and testing.

Credit Hours 3 hour lecture

Prerequisites: EE 373 or equivalent

EC 2103, Mining Engineering 301, Aggregate Materials Sizing and Characterization, approved effective Fall 2009. **Tabled**

Course Description: Geological formation of aggregates; aggregate properties and their measurements; aggregate for specific end-use applications; specifications and standards; processing (crushing, screening, classification, and washing); plant design and flow sheet analysis; quality control and assurance.

Credit Hours: 2 hour lecture, 1 hour lab, Total: 3

Prerequisites: Min Eng 241

EC 2104, Computer Science 401, Advanced Topics in Network Security, approved effective Spring 2009.

Course Description: This course covers recent advances in security of Internet, Wireless Networks, and Sensor Networks.

Credit Hours: 3 hour lecture

Prerequisites: Cmp Sc 285 or equivalent

EC 2105, Mining Engineering 401, Research Methods, approved effective Fall 2009.

Course Description: This course introduces the foundation, dimensions, and methods for designing and investigating research problems. The course will focus on fundamental and applied research constitutions, research design methods, critical literature review, experimental design methods, dissertation composition and write-up, originality and contributions, intellectual property.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2106, Finance 301, Quantitative Finance Methods, approved effective Spring 2009.

Course Description: The focus is development of basic quantitative finance models using spreadsheet technology. Particular topics include portfolio modeling and optimization, asset pricing, performance measures, options, Black-Scholes formula, implied volatility, interest rate models, bonds, and binomial trees.

Credit Hours: 3 hour lecture

Prerequisites: Programming Competency and Introductory Statistics

EC 2108, English 301, American Gothic, effective Spring 2009. This course was approved on a CC form. See CC 7490.

EC 2109, IDE 401, Alternative Design Methods, approved effective Spring 2009.

Course Description: This course examines design methods outside of the Pahl and Beitz inspired realm. Alternative design approaches such as axiomatic design, TRIZ, affordances and quality methods are explored and evaluated on their applicability to varying types of design problems.

Credit Hours: 3 hour lecture

Prerequisites: Graduate Standing

EC 2110, Technical Communication 301, Help Authoring, approved effective Spring 2009.

Course Description: Students will acquire the technological and rhetorical skills necessary for creating effective online help systems, including context-sensitive help for computer applications.

Credit Hours: 3 hour lecture

Prerequisites: Engl 65 or Tech Com 65

EC 2111, Theatre 201, Acting II, approved effective Spring 2009. **Tabled**

Course Description: Continuation of Acting I, covering acting styles, more complicated, nuanced roles, and more detailed character analysis and performance-Special emphasis on Shakespearean performance.

Credit Hours: 3 hour lecture

Prerequisites: Theatre 101 (Acting I)

EC 2112, Theatre 101, Acting I, approved effective Fall 2009. **Tabled**

Course Description: Covers basic techniques for comprehension of theory and practice of acting. Explores inner/outer techniques to create a role. Follows working steps to create performance of a fully realized characterization. Designed as a introductory course.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2113, Computer Science 401, Security for Wireless and Sensor Networks, approved effective Spring 2009.

Course Description: This course covers recent advances in security of Internet, Wireless Networks, and Sensor Networks. The topics coverage will focus on newly emerging security services, threats, attacks and counter-measures to each of these networks.

Students will be expected to pick a relevant topic, and complete a research project.

Credit Hours: 3 hour lecture

Prerequisites: Cmp Sc 385 or equivalent

EC 2114, Computer Science 401, Personal Privacy and Data Security in Distributed Computing, approved effective Fall 2009.

Course Description: This course first covers basic tools, in statistics and cryptography, commonly used to design privacy preserving and secure protocols in distributed environment. The course also introduces recent advances in the field of privacy-preserving data analysis, data sanitization and information retrieval. Students are expected to choose a relevant topic, and to complete a course project.

Credit Hours: 3 hour lecture

Prerequisites: Cmp Sci 355 or equivalent

EC 2115, Computer Science 401, Software Evolution, approved effective Spring 2009.

Course Description: Provide graduate students an overview of software evolution and the associated research field. Topics of interest include empirical methods, program comprehension, reverse engineering, static & dynamic analysis, software maintenance. Course conduct will be in the form of a research seminar.

Credit Hours: 3 hour lecture

Prerequisites: CS 206 or equivalent

**Review of Tabled Items:**

CC 7452, Finance 437, Financial Mathematics II. The following changes are approved effective Spring 2009.

Course Number – Proposed: 430

Course Title – Proposed: Advanced Mathematical Finance

Course Description – Proposed: Topics include exotic options, liquidity, volatility surfaces, discrete hedging, market jumps, calibrating to market, modeling yield curves and related products, convertible bonds, credit derivatives, various hybrid derivatives, applicable numerical methods.

Prerequisites – Present: Math 337 or Econ 337

Proposed: Finance 250

EC 2058, Finance 401, Object-Oriented Financial Software, approved effective Spring 2009.

Course Description: The focus is objected-oriented design and development of quantitative finance software for derivative pricing. Particular topics include design patterns, templates, and inheritance, asset modeling, derivative theory, interest rate models, Monte Carlo Methods, binomial trees, and finite difference methods.

Credit Hours: 3 hour lecture

Prerequisites: Math 337 or Econ 337 or Cs 328; Object – Oriented programming Competency

**Items Still Tabled:**

CC 5946 – CC 5959 tabled pending approval of the new BS degree in BioEngineering by UM and CBHE.

EC 2086, Mining Engineering 301, Mineral Processing II, effective Fall 2009. **Tabled**

EC 2087, Mining Engineering 301, Mineral processing II, effective Fall 2009. **Tabled**

**New Business**

The committee members elected Dr. Keith Nisbett as Chair of the Curricula Committee for the 08-09 academic year.

The committee also discussed establishing new procedures for the circulation of all curriculum forms since the Department Specific Curriculum Committee and Chairs are now in place. Further discussion on this matter is expected at the next meeting on November 4<sup>th</sup>, 2008.

The meeting adjourned at 4:35 p.m. The next meeting will be Tuesday November 4, 2008 @ 3:00 p.m. in 117 Fulton Hall.

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J. Keith Nisbett, Chair  
Missouri S&T Campus Curricula Committee