



Minutes
Campus Curricula Committee Meeting
January 4, 2012
12 p.m. Room 117 Fulton Hall

Barry Flachsbart, Angie Huffman, Irina Ivliyeva, Keith Nisbett, Daniel Tauritz, Jennifer Thorpe, and Steve Watkins attended the meeting.

Review of submitted DC forms:

DC 0402, Nuclear Engineering, Bachelor of Science, approved effective Fall 2012. A proposal to modify the current curriculum for the BS in Nuclear Engineering by adding Computer Science 53 and 54 as alternative intro to programming options.

DC 0403, Architectural Engineering, Bachelor of Science, approved effective Fall 2012. A proposal to modify the current curriculum for the BS in Architectural Engineering by replacing ME 371 with ArchE 371.

DC 0404, Mining Engineering, Bachelor of Science, approved effective Fall 2012. A proposal to modify the current curriculum for the BS in Mining Engineering by replacing the Fundamentals of Engineering Exam with the Graduating Mining Engineers Exam.

DC 0405, Geological Engineering, Bachelor of Science, approved effective Fall 2012. A proposal to modify footnote (f) the Engineering Economy elective to read "To be selected from Eng Mgt 308, or PE 357 or both Eng Mgt 124 and Eng Mgt 137".

DC 0406, Chemistry, Bachelor of Arts, approved effective Fall 2012. A proposal to modify the current curriculum for the Bachelor of Arts in Chemistry to make it consistent with current course offerings.

DC 0407, Chemistry, Bachelor of Arts, Secondary Education Emphasis Area, approved effective Fall 2012. A proposal to modify the current curriculum for the Secondary Education Emphasis Area to make it consistent with current course offerings.

Review of submitted CC forms:

CC 8186, Computer Engineering 409, Topics in VLSI Systems. The following changes are approved effective Fall 2012.

Course Title – Proposed: Design Automation of VLSI Systems

Catalog Description – Proposed: This course covers fundamentals in VLSI design automation. Topics include logic synthesis, design planning and optimization, placement and routing, parasitic extraction, circuit simulation, timing analysis, design verification and testing.

CC 8192, Nuclear Engineering 407, Advanced Nuclear Thermal Hydraulics. New course approved effective Fall 2012.

Catalog Description: Integrated treatment of thermodynamics and advanced mass, momentum and energy transport in solids and fluids; velocity and temperature distributions in laminar and turbulent flow; flow and thermal analysis with applications to nuclear engineering systems.

Credit Hours: 3 hour lecture

Prerequisites: Math 325

CC 8193, Nuclear Engineering 403, Advanced Reactor Physics. New course approved effective Fall 2012.

Catalog Description: Transport and diffusion theory; multi-group approximation; criticality calculations; cross-section processing; buildup and depletion calculations; delayed neutrons and reactor kinetics; lattice physics calculations; full core calculations; analysis and measurement of reactivity coefficients.

Credit Hours: 3 hour lecture

Prerequisites: Math 325

CC 8195, Business 320, Managerial Accounting. The following change is approved effective Fall 2012.

Prerequisites – Present: Bus 120 or Eng Mgt 130 or Eng Mgt 131 or Eng Mgt 230

Proposed: Bus 120 or Eng Mgt 147

CC 8196, Business 360, Business Operations. The following change is approved effective Fall 2012.

Prerequisites – Present: Math 8 or Math 12 or Math 14; any Statistics course; Bus 120 or Eng Mgt 130 or Eng Mgt 131 or Eng Mgt 230

Proposed: Math 8 or Math 12 or Math 14; any Statistics course; Bus 120 or Eng Mgt 147

CC 8197, Finance 250, Corp Finance I. The following change is approved effective Fall 2012.

Prerequisites – Present: Bus 120 or Eng Mgt 130 or Eng Mgt 131 or Eng Mgt 230; Econ 121 or Econ 122

Proposed: Bus 120 or Eng Mgt 147; Econ 121 or Econ 122

CC 8198, Electrical Engineering 388, Computer Engineering 388, Introduction to Robotics. New courses approved effective Fall 2012.

Catalog Description: This course provides an introduction to robotics, covering robot hardware, fundamental kinematics, trajectories, differential motion, robotic decision making, and an overview of current topics in robotics.

Credit Hours: 3 hour lecture

Prerequisites: A “C” or better in both Math 208 and Cmp Sc 153

Co-listing: Cmp Sc 345

CC 8199, Computer Science 345, Computational Robotic Manipulation. The following changes are approved effective Fall 2012.

Course Title – Proposed: Introduction to Robotics

Catalog Description – Proposed: This course provides an introduction to robotics, covering robot hardware, fundamental kinematics, trajectories, differential motion, robotic decision making, and an overview of current topics in robotics.

Prerequisites – Present: Cmp Sc 253; Math 208; Physics 24 or Physics 25

Proposed: A “C” or better in both Math 208 and Cmp Sc 153

Co-listings: Cmp Eng 388, Elec Eng 388

CC 8200, Chemical Engineering 234, Chemical Engineering Laboratory I. The following change is approved effective Fall 2012.

Catalog Description – Proposed: Experiments associated with unit operations involving fluid flow and heat transfer. Principles of data and uncertainty analysis are introduced with emphasis on model building. Communication skills are stressed. This is a communication emphasized course.

CC 8201, Chemical Engineering 236, Chemical Engineering Laboratory II. The following change is approved effective Fall 2012.

Prerequisites – Present: Chem Eng 234, Chem Eng 235, Chem eng 237 preceded or accompanied by Chem Eng 281

Proposed: Chem Eng 235, Chem Eng 237, preceded or accompanied by Chem Eng 281

CC 8202, Chemical Engineering 252, Process Dynamics and Control Laboratory. The following changes are approved effective Fall 2012.

Catalog Description – Proposed: Application of concepts of industrial process dynamics and control using experiments that demonstrate different control and sensing devices and software. This is a communications emphasized course.

Prerequisites – Present: Preceded or accompanied by Chem Eng 236, or Chem Eng 264; accompanied by Chem Eng 251

Proposed: Preceded or accompanied by Chem Eng 251

CC 8203, Chemical Engineering 281, Reactor Design. The following change is approved effective Fall 2012.

Prerequisites – Present: Chem Eng 237 or Chem Eng 263

Proposed: Preceded or accompanied by either Chem Eng 237 or Chem Eng 263

CC 8204, Chemical Engineering 251, Chemical Engineering Process Dynamics and Control. The following change is approved effective Fall 2012.

Prerequisites – Present: Preceded or accompanied by Chem Eng 236 or Chem Eng 264; accompanied by Chem Eng 252.

Proposed: Preceded or accompanied by one of Chem Eng 234, Chem 236 or Chem Eng 264

Review of submitted EC forms:

EC 2373, Geological Engineering 301, Fundamentals of Groundwater Hydrology. Superseded by EC 2389 so returned to department.

EC 2377, Geological Engineering 301, Hydrologic Flow and Transport Modeling, approved effective Spring 2012.

Course Description: An introduction to advanced modeling techniques for simulating flow and transport processes in porous media under different hydrologic conditions. Emphasis is placed on both theoretical and practical modeling considerations. Simulation software will be used. Practical applications are emphasized.

Credit Hours: 3 hour lecture

Prerequisites: Math 204

EC 2381, Mining Engineering 301, Global Leadership in the Mining Industry, effective Fall 2012.

Course Description: This course will focus on the leadership challenges and opportunities associated with the global mining industry. Students will be introduced to the challenges associated with environmental stewardship, diversity and indigenization, technology transfer and management, partnerships, mergers and acquisitions, project financing, risks and opportunities associated with the global mining industry.

Credit Hours: 3 hour lecture

Prerequisites: At least junior standing

EC 2382, Mining Engineering 301, Tech Innovations in Mining Engineering, approved effective Fall 2012.

Course Description: Familiarity and use of advanced technologies in the mining industry. Presentations by industry leaders on current and future technologies for impacting industry performance. Students participate in research on the impact of technology on safety, efficiency, economics and sustainability on mining industry performance.

Credit Hours: 3 hour lecture

Prerequisites: At least junior standing

EC 2383, Math 401, Numerical Analysis, approved effective Fall 2012.

Course Description: A proof-based course emphasizing theoretical analysis of convergence and accuracy of various numerical methods including approximate solutions of linear and nonlinear equations, numerical integration, and function approximation, with implementation to validate results and illustrate the methods.

Credit Hours: 3 hour lecture

Prerequisites: Math 309, programming competency

EC 2384, Math 401, Finite Element Methods for Partial Differential Equations, approved effective Spring 2013.

Course Description: Implementation and theoretical analysis of the finite element method for the approximate solution of partial differential equations. Implementation of finite element methods for poison and heat equations. Theoretical analysis of convergence, accuracy, and stability of approximate solutions.

Credit Hours: 3 hour lecture

Prerequisites: Math 325, programming competency

EC 2385, Chemical Engineering 301, Kinetics of Complex Chemical Reactions, approved effective Fall 2012.

Course Description: Students will use contemporary methods to decode the kinetic complexity of chemical reactions to understand the relationships between observed kinetic behavior and reaction mechanism. Heterogeneous catalysis (complete and partial oxidation), combustion, and enzyme processes) with special emphasis on original data from TAP micro-reactor studies provide the many examples for student analysis.

Credit Hours: 3 hour lecture

Prerequisites: Chem Eng 281

EC 2388, Geology 301, Summer Field Geology in Southern China, approved effective Summer 2012.

Course Description: Studies of (1) fundamentals of field geology through lecture and field observations, and measurement, focusing on evolution of ancient seas, reefs and life in south China (2 CHs), and (2) Chinese culture and history (1 CH) through interactions with Chinese people and students, and touring in Beijing. Co-taught with instructors from Trinity U. and Guizhou U., China. Expenses to be paid by students.

Credit Hours: 2 hour lecture, 1 hour lab

Prerequisites: Geol 50 or Geol 51

EC 2389, Geological Engineering 301, Fundamentals of Groundwater Hydrology, approved effective Fall 2012.

Course Description: The course will focus on fundamental analysis and overall survey of groundwater hydrology with emphasis on practical geo-environmental and subsurface hydrology issues of interest to working professionals. Topics will include general hydrology, surface and subsurface hydrologic interconnection, basic groundwater flow and well test analysis, and a brief introduction to contaminant transport. This class is intended to be taught as a distance class to working professionals from a wide variety of academic backgrounds; therefore, the mathematical complexity will be at a basic level and the focus is on a general understanding of groundwater hydrology.

Credit Hours: 3 hour lecture

Prerequisites: Permission of instructor. This course cannot be used for Geological Engineering undergraduate credit for the B.S. in Geological Engineering degree

EC 2390, Geological Engineering 401, Slope Stability, approved effective Fall 2012.

Course Description: The course will cover the fundamentals of slope stability in soil and rock with emphasis on characterization and analysis as well as mitigation and remediation techniques for slopes.

Credit Hours: 3 hour lecture

Prerequisites: Permission of instructor and a previous course in Soil or Rock Mechanics or Rock Engineering

EC 2391, Theatre 101, Voice Diction and Interpretation, approved effective Fall 2012.

Course Description: Training the speaking voice; study of vocal mechanism, breathing, projection, articulation, enunciation; practical application of speaking principles in oral interpretation reading; mastering clarity of speech through vocal exercises.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2395, Nuclear Engineering 401, Advanced Reactor Physics, approved effective Spring 2012.

Course Description: Transport and diffusion theory; multi-group approximation; criticality calculations; cross-section processing; buildup and depletion calculations; delayed neutrons and reactor kinetics; lattice physics calculations; full core calculations; analysis and measurement of reactivity coefficients.

Credit Hours: 3 hour lecture

Prerequisites: Math 325

The meeting adjourned at 12:52 p.m. The next meeting will be Wednesday, February 01, 2012 at 12 noon 117 Fulton Hall.

Daniel Tauritz, Chair
Missouri S&T Campus Curricula Committee