

Memo To: Faculty Senate
From: Missouri S&T Campus Curricula Committee Meeting
RE: May 2, 2012

The Missouri S&T Campus Curricula Committee recommends to the Faculty Senate that the curriculum changes and degree proposals on the following DC forms be approved.

Approved DC forms:

DC 0410, Explosives Engineering, Minor, approved effective Fall 2012. A proposal to modify the current course requirements for the minor in Explosives Engineering.

DC 0411, Explosives Engineering, Emphasis, approved effective Fall 2012. A proposal to modify the current requirements for the emphasis area in Explosives Engineering.

DC 0416, Computer Science, Bachelor of Science, approved effective Fall 2012. A proposal to modify the current requirements for the Bachelor of Science in Computer Science.

DC 0422, Information Science and Technology, Master of Science, approved effective Fall 2012. A proposal to modify the current curriculum for the Master of Science in Information Science and Technology.

The Missouri S&T Campus Curricula Committee recommends to the Faculty Senate that the course changes on the following CC forms be approved.

Approved CC forms:

CC 8204, Explosives Engineering 407, Mining Engineering 407, Theory of High Explosives. The following change is approved effective Fall 2012.

Prerequisites – Present: Min Eng 307, Successful background check.

Proposed: Successful background check and Graduate Standing

CC 8205, Explosives Engineering 305, Explosives Handling and Safety. The following changes are approved effective Fall 2012.

Catalog Description – Proposed: Basic handling and safety for explosives, explosive devices and ordnance related to laboratory handling, testing, manufacturing and storage, for both civil and defense applications.

Prerequisites – Present: Min Eng 151, Min Eng 307, Successful background check

Proposed: Min Eng 151, Exp Eng 307, Successful background check

CC 8206, Mining Engineering 305, Explosives Handling and Safety. Course deletion approved effective Fall 2012.

CC 8207, Explosives Engineering 309, Commercial Pyrotechnics Operations. The following changes are approved effective Spring 2013.

Catalog Description – Proposed: Provide participants with training preparing for Missouri Licensed Display Operator (Outdoor) License and advanced lead pyrotechnic operator training. Class work will be complemented by practical training in laboratory sessions, culminating in a full pyrotechnic show, from start to finish.

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

Proposed: Both Chem 1 and Chem 2 or their equivalent; US Citizen or permanent resident, successful background check, resident enrollment at Missouri S&T.

CC 8208, Mining Engineering 309, Commercial Pyrotechnics Operations. Course deletion approved effective Spring 2013.

CC 8209, Explosives Engineering 313, Stage Pyrotechnics and Special Effects. The following changes are approved effective Spring 2013.

Prerequisites – Present: Chem 1. US Citizen or permanent resident (to fulfill the requirements of the SAFE EXPLOSIVES ACT 2003). Successful background check. Resident enrollment at MS&T.

Proposed: Both Chem 1 and Chem 2 or their equivalent; US Citizen or permanent resident, successful background check, resident enrollment at Missouri S&T.

CC 8210, Mining Engineering 313, Stage Pyrotechnics and Special Effects. Course deletion approved effective Spring 2013.

CC 8211, Explosives Engineering 351, Demolition of Buildings and Structures. The following change is approved effective Fall 2012.

Prerequisites – Present: Preceded or accompanied by IDE 50 or 140; US citizen or permanent resident; *Requirement due to Safe Explosives Act – January 2003; Successful background check.

Proposed: Preceded or accompanied by CE 50 or IDE 140; US citizen or permanent resident, successful background check.

CC 8212, Mining Engineering 351, Explosives Engineering 351, Demolition of Buildings and Structures. Course deletion approved effective Fall 2012.

CC 8213, Explosives Engineering 406, Scientific Instrumentation for Explosives Testing & Blasting. The following changes are approved effective Spring 2013.

Credit Hours – Present: 2 hr. lecture, 1 hr. lab

Proposed: 1 hr. lecture, 2 hr. lab

Prerequisites – Present: Successful background check

Proposed: Exp Eng 307 and successful background check

CC 8214, Mining Engineering 406, Scientific Instrumentation for Explosives Testing & Blasting. Course deletion approved effective Spring 2013.

CC 8215, Mining Engineering 407, Explosives Engineering 407, Theory of High Explosives, effective Fall 2012. Duplicate action of CC 8204, returned to department.

CC 8216, Explosives Engineering 408, Regulatory Issues in the Explosives Industry. New course approved effective Fall 2012.

Catalog Description: Comprehensive coverage of the federal regulations governing the explosives industry, including those governing storage of explosives (ATF), transportation of explosives (DOT and TSA), the environment (EPA) and use of explosives (OSM, MSHA & OSHA).

Credit Hours: 3 hr. lecture

Prerequisites: Graduate Standing

CC 8240, Mechanical Engineering 363, Principles and Practice of Computer Aided Design. The following changes are approved effective Fall 2012.

Catalog Description – Proposed: This course introduces the fundamentals of computer-aided design with emphasis on mathematical representations of curves and surfaces, modeling of solids, and graphic displays. Students will also practice with commercial CAS/CAM packages to gain experience and to help grasp fundamentals.

Prerequisites – Present: Cmp Sc 73, 77, Mc Eng 211, 208

Proposed: Cmp Sc 53 or 73 or 74; Mc Eng 161; at least junior standing

CC 8241, Psychology 410, Seminar in Industrial/Organizational Psychology. New course approved effective Fall 2013.

Catalog Description: Review of the most recent theoretical and applied research in advanced personnel and organizational psychology. Topics will include personnel selection, training and performance appraisal, job attitudes, motivation, work groups and teams, leadership, organizational culture, and organizational development.

Credit Hours: 3 hr. lecture

Prerequisites: Nine hours of psychology

CC 8242, Civil Engineering 424, Structural dynamics and Earthquake Engineering. The following change is approved effective Spring 2013.

Catalog Description – Proposed: Behavior of structural materials, elements, and systems under earthquake loads; computer methods for response analysis of lumped and distributed mass models, eigensolution techniques, response spectral analysis, design of 2-D and 3-D seismic resistant structures with current design codes.

Prerequisites – Present: IDE 150, CE/Arch 217, Math 204 or equivalent
Proposed: CE/Arch 384 or equivalent

CC 8243, Civil Engineering 384, Architectural Engineering 384, Structural Dynamics. New course approved effective Fall 2012.

Catalog Description: This course deals with fundamental concepts and structural responses under dynamic loads. Hand calculations and computer methods are developed. Specific topics include resonance, beating phenomenon, equation of motion, dynamic properties, frequencies and mode shapes, and modal and Ritz analyses.

Credit Hours: 3 hr. lecture

Prerequisites: IDE 150 or equivalent; CE/Arch 217 or equivalent

For the information of the Faculty Senate, the following EC forms have been submitted by the University departments for an experimental course that will be offered in the near future.

Approved EC forms:

EC 2394, Explosives Engineering 301, Military Demolition for Combat Engineers, approved effective Summer 2012.

Course Description: Intro to demolition, safety and firing circuits. Charge calculations for timber, steel, breaching, cratering and urban breaching. Explosives properties and the field expedient use of civilian explosives and initiation systems. Taught in conjunction with USAES.

Credit Hours: 2 hr. lecture, 1 hr. lab

Prerequisites: Active US military, graduate standing, consent of instructor, “Successful completion of the USAES Officers Demolition training”

EC 2408, Physics 401, Special Topics in Atomic, Molecular, and Optical Physics, approved effective Fall 2012.

Course Description: A selection of advanced topics in atomic, molecular and optical (AMO) physics will be given. Potential topics include: the few body problem, atomic and molecular collisions, experimental and theoretical methods, current topics in quantum electrodynamics (QED), Rydberg states, and wavepackets.

Credit Hours: 3 hr. lecture

Prerequisites: Graduate Standing

EC 2409, Architectural Engineering 401, Sensing and Control in the Built Environment, approved effective Fall 2012.

Course Description: This course will provide an overview of the construction and implementation of data acquisition, data mining, quantitative analyses and system controls, including data collection interface design, signal filtering methods, in-depth analysis using data mining and statistical tools, and environmental system control with advanced control logics.

Credit Hours: 3 hr. lecture

Prerequisites: ArchE 371

EC 2410, Philosophy 301, Epistemology: Knowledge and Justification, approved effective Fall 2012.

Course Description: An introduction to the field of epistemology, the study of the scope, the limits, the sources, and the nature of knowledge and justified belief. Includes analyses of knowledge and justification, skepticism, scientific knowledge, and naturalism, among other topics.

Credit Hours: 3 hr. lecture

Prerequisites: None

EC 2412, Biological Sciences 301, Introduction to Astrobiology, approved effective Spring 2013.

Course Description: An overview of the origins of life on early earth and the possibility of life on extraterrestrial bodies will be examined in this course through lectures and journal articles. The techniques that astrobiologists use to investigate the possibility of life beyond earth will be explored. Assessment will be based on exam performance and participation in class.

Credit Hours: 3 hr. lecture

Prerequisites: Bio Sci 211 or 221

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Missouri S&T Campus Curricula Committee

