



Memo To: Faculty Senate  
From: Missouri S&T Campus Curriculum Committee Meeting  
RE: May 4, 2010 meeting

**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 0362, Aerospace Engineering Bachelor of Science, approved effective Fall 2010. A proposal to modify the current curriculum for the Bachelor of Science in Aerospace Engineering.

DC 0364, Business and Information Technology, minor in Business, approved effective Fall 2010. A proposal to modify the current curriculum for the minor in Business by replacing Psych 50 with Fin 250.

**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 8002, IST 480, Web and New Media Studies. The following changes were approved effective Fall 2010.

Course Title – Proposed: Advanced Web and New Media Studies

Catalog Description – Proposed: The course covers web culture, including topics such as social media; citizen journalism, crowd intelligence, privacy, and copyright. This course is an advanced version of Intro to Web Studies, with additional assignments.

CC 8003, Engineering Management 373, Intelligent Investing. New course approved effective Fall 2010.

Catalog Description: In this course we examine methods and tools, which support building a personal portfolio that leads to long-term wealth for the owner. The approach is based on the teachings of Benjamin Graham and Warren Buffet.

Credit Hours: 3 hour lecture

Prerequisites: None

CC 8005, Aerospace Engineering 231, Aerodynamics I, effective Fall 2010. The following change is approved effective Fall 2010.

Prerequisites – Present: Accompanied or preceded by Ae Eng 161 and a grad of “C” or better in Math 14 (or 8), 15 (or 21), 22, Physics 23, and Mc Eng 219

Proposed: Accompanied or preceded by AE 161 and a grade of “C” or better in Math 14 (or 8), 15 (or 21), 22, and Physics 23.

CC 8006, Aerospace Engineering 251, Aerospace Structures I. The following change is approved Spring 2011.

Prerequisites – Present: IDE 110 and a grade of “C” or better in Math 14 (or 8), 15 (or 21), 22, and Physics 23

Proposed: “C” or better in Math 14 (or 8), 15 (or 21), 22, Physics 23 and IDE 110

CC 8007, Aerospace Engineering 271, Aerodynamics II. The following change is approved effective Spring 2011.

Prerequisite – Present: AE 231

Proposed: “C” or better in AE 231 and ME 219

CC 8008, Aerospace Engineering 281, Aerospace Systems Design II. The following change is approved effective Fall 2010.

Prerequisite – Present: AE 235, 253, 280

Proposed: AE 280

CC 8009, Aerospace Engineering 382, Spacecraft Design II. The following change is approved effective Fall 2010.

Prerequisites – Present: AE 235, 253, and AE 380 for AE majors; consent of instructor for non-AE majors.

Proposed: AE 380 for AE majors; consent of instructor for non AE majors

CC 8010, Mechanical Engineering 220, Engineering Design Methodology. New course approved effective Fall 2010.

Catalog Description: This course examines structured engineering design theory and methodologies for conceptual design and redesign of products. Topical coverage includes customer needs gathering, functional modeling, engineering specifications creation (OFD), concept generation, selection and design embodiment. Team work/hands-on projects emphasized.

Credit Hours: 3 hour lecture

Prerequisites: Junior standing in engineering and at least 12 hours major field credit

Co-listing: IDE 220

CC 8011, Electrical Engineering 475, High Speed Digital Design. The following changes are approved effective Spring 2011.

Course Title – Proposed: Topics in EMC and High Speed Digital Design

Catalog Description – Proposed: This course will cover advanced topics in electromagnetic compatibility and high speed digital design that are not traditionally covered in other courses. Topics will depend on the latest developments in the field and on student needs.

CC 8012, Computer Science 447, Advanced Topics in Artificial Intelligence. The following changes are approved effective Spring 2011.

Catalog Description – Proposed: Advanced topics of current interest in the field of artificial intelligence. This course involves reading seminal and state-of-the-art papers as well as conducting topical research projects including design, implementation, experimentation, analysis, and written and oral reporting components.

Prerequisites – Present: Cmp SC 347

Proposed: Cmp Sc 347 or Cmp Sc 348 or CpE 358

CC 8013, Mining Engineering 313, Stage Pyrotechnics and Special Effects. The following change is approved effective Fall 2010.

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 internet)

Proposed: 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 (e.g., not distance or internet)

CC 8014, Electrical Engineering 477, Advanced Topics in Antenna Analysis & Design. New course approved effective Spring 2011.

Catalog Description: Introduction and discussion of advanced antenna design issues including: polarization, antenna synthesis and source modeling, broadband antennas, aperature and microstrip antenna simulation and design, and antenna pattern measurement techniques including near-field to far-field transformation.

Credit Hours: 3 hour lecture

Prerequisites: EE 373 or equivalent

CC 8015, Finance 400, Special Problems. New course approved effective Fall 2010.

Catalog Description: Problems or readings on specific subjects or projects in finance.

Credit Hours: 0-6 hr lecture

Prerequisites: Admission to the MBA program and permission of the instructor.

CC 8016, Finance 401, Special Topics. New course approved effective Fall 2010.

Catalog Description: This is designed to give the department an opportunity to test a new course. Variable title.

Credit Hours: 0-6 hr lecture

CC 8018, Civil Engineering 457, Traffic Flow Theory and Characteristics. New course approved effective Spring 2011.

Catalog Description: This course will cover advanced theories of traffic flow, traffic flow characteristics, statistical distributions of traffic flow parameters, traffic stream models, car following models, shock wave analysis, queuing analysis, traffic flow models for intersections, traffic simulation.

Credit Hours: 3 hour lecture

Prerequisites: Preceded or accompanied by CE 353, knowledge of statistics, graduate standing or consent of instructor.

CC 8019, Mechanical Engineering 357, Integrated Product and Process Design. The following change is approved effective Fall 2010.

Prerequisite – Present: EMgt 282 or ME 253

Proposed: EMgt 253 or ME 253

CC 8021, Engineering Management 137, Economic Analysis of Economic Projects. The following change is approved effective Spring 2011.

Prerequisites – Present: None

Proposed: Math 15

CC 8037, Explosives Engineering 307, Principles of Explosives Engineering. New course approved effective Fall 2010.

Catalog Description: Theory and application of explosives in the mining industry, explosives initiating systems, characteristics of explosive reactions and rock breakage, fundamentals of blast design, drilling and blasting, regulatory and safety considerations.

Credit Hours: 2 hr. Lecture, 1 hr. Lab, Total: 3

Prerequisites: Geo Eng 50 accompanied or preceded by either Civ Eng 215 or Geology 220 or Geology 125

Co-listing: Min Eng 307

CC 8038, Explosives Engineering 350, Blasting Design and Technology. New course approved effective Fall 2010.

Catalog Description: Advanced theory and application of explosives in excavation; detailed underground blast design; specialized blasting including blast casting, construction and pre-splitting. Introduction to blasting research. Examination of field applications.

Credit Hours: 2 hr. Lecture, 1 hr. Lab, Total: 3

Prerequisites: Min Eng 307, Student must be at least 21 years of age

Co-listing: Min Eng 350

CC 8039, Explosives Engineering 351, Demolition of Buildings and Structures. New course approved effective Fall 2010.

Catalog Description: provide participants with basics and solid grounding in the equipment, techniques and processes required for the demolition and remediation of mine plant and processing equipment sites and non-mining structures such as buildings, factories, bridges etc.

Credit Hours: 2 hr. Lecture, 1 hr. Lab, Total: 3

Prerequisites: IDE 50 or IDE 140 and IDE 110 or Min Eng 232, plus US Citizen or permanent resident. \*Requirement due to the Safe Explosives Act – January 2003

Co-listing: Min Eng 351

CC 8040, Explosives Engineering 402, Environmental Controls for Blasting. New course approved effective Fall 2010.

Catalog Description: Advance blast mechanics; over break control including comprehensive coverage of perimeter and smooth wall specialist blasting techniques and geotechnical factors affecting blast vibration, including limits, analysis, monitoring and control; air blast control including limits, monitoring and control; air blast control including limits, monitoring and atmospheric and topographic effects.

Credit Hours: 2 hr. Lecture, 1 hr. Lab, Total: 3

Prerequisites: Min Eng 307

Co-listing: Min Eng 402

CC 8041, Explosives Engineering 406, Scientific Instrumentation for Explosives and Blasting. New course approved effective Fall 2010.

Catalog Description: Application of scientific principles, equipment description and operation for instrumentation of explosive events including blasting. Topics: Blast chamber design, set up, high-speed photography, motion detection and measurement, explosives sensitivity testing, explosives properties testing, vibration measurement & analysis, destruction & demilitarization.

Credit Hours: 2 hr. Lecture, 1 hr. Lab, Total: 3

Prerequisites: None

Co-listing: Mining Engineering 406

CC 8042, Explosives Engineering 309, Commercial Pyrotechnics Operations. New course approved effective Fall 2010.

Catalog Description: Provide participants with basic pyrotechnic operator certification (with passing of the PGE test) 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.

Credit Hours: 2 hr. Lecture, 1 hr. Lab, Total: 3

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

Co-listing: Min Eng 309

CC 8043, Explosives Engineering 313, Stage Pyrotechnics and Special Effects. New course approved effective Fall 2010.

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: 2 hr. Lecture, 1 hr. Lab, Total: 3

Prerequisites: None

Co-listing: Min Eng 313

CC 8044, Explosives Engineering 305, Explosives Handling and Safety. New course approved effective Fall 2010.

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

Credit Hours: 3 hr. Lecture

Prerequisites: None

Co-listing: Min Eng 305

CC 8045, Explosives Engineering 407, Theory of High Explosives. New course approved effective Fall 2010.

Catalog Description: Study of the application of chemical thermodynamics and the hydrodynamic theory to determine properties of high explosives; application of detonation theory to steady-state detonations in real explosives; application of the above to the blasting action of explosives.

Credit Hours 3 hr. Lecture

Prerequisites: Min Eng 307

Co-listing: Min Eng 407

CC 8046, Explosives Engineering 490, Research. New course approved effective Fall 2010.

Catalog Description: Investigations of an advanced nature leading to the preparation of a thesis or dissertation. Consent of instructor required.

CC 8047, Explosives Engineering 400, Special Problems. New course approved effective Fall 2010.

Catalog Description: Problems or readings on specific subject or projects in the department. Consent of instructor required.

**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 2254, IST 301, Introduction to Web and New Media Studies, approved effective Fall 2010.

Course Description: The course covers web culture, including topics such as social media; citizen journalism; crowd intelligence; privacy; and copyright.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2255, Ceramic Engineering 201, Applied Glass Forming, approved effective Fall 2010.

Course Description: Examines the properties and behavior of molten glass along with basic forming techniques, including off-hand shaping, molding and casting.

Credit Hours: 1 hour lecture

Prerequisites: Cer Eng 104 or Met Eng 125; freshmen, sophomore, or junior only or by instructor permission.

EC 2256, Mining Engineering 401, Research Methods, approved effective Fall 2010.

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, and intellectual property.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2258, Math 401, Mathematical Logic with Applications, approved effective Summer 2010.

Course Description: A mathematical introduction to logic., emphasizing model theory, with applications. Functional and relational languages, satisfaction, soundness and completeness theorems, compactness theorems, and definability. Finite Model Theory, and Non-classical and Higher-Order Logics. Individual projects that apply Logic to the student's major or vice versa.

Credit Hours: 3 hour lecture

Prerequisites: Math 305 or Math 354 or CS 354 or Cp Eng 354 or Phil 354 or PhD candidate

EC 2261, French 301, Introduction to Translation and Interpretation, approved effective Fall 2010.

Course Description: This course will introduce students to translation and interpretation. Translation assignments, including current events and general scientific texts, will be used to hone French reading comprehension and writing skills. Interpretation will develop students' public speaking and oral comprehension skills.

Credit Hours: 3 hour lecture

Prerequisites: French 170

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