

Memo To: Faculty Senate  
From: Missouri S&T Campus Curriculum Committee Meeting  
RE: September 1, 2009 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 0327, Interdisciplinary Engineering, effective Fall 2009.

A proposal to inactivate the Bachelor of Science degree in Interdisciplinary Engineering.

DC0328, Mining Engineering, effective Fall 2010.

A proposal to modify the current curriculum for the BS in Mining Engineering.

DC0329, Finance, effective Fall 2009.

A proposal to remove Econ 323 from the Finance minor.

DC0331, Cognitive Neuroscience, effective Spring 2010.

A proposal to modify the current requirements for the minor in Cognitive Neuroscience by requiring Psych 345.

DC0333, Business and Management Systems, effective Fall 2010.

A proposal to modify the current curriculum for the BS in Business and Management Systems.

DC0335, Information Science and Technology, effective Fall 2010.

A proposal to modify the current curriculum for the MS in Information Science and Technology.

DC 0336, Arts, Languages & Philosophy, effective Spring 2010.

A proposal to create a new minor called Studio Art Minor.

**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 7689, Mining Engineering 221, Mining Exploration. The following change is approved effective Fall 2010.

Catalog Description – Proposed: Classification of mineral deposits. Orebody definition. Geology, geophysics, geochemistry, geobotany, and drilling in mineral exploration. Sampling methods, errors and mitigation. Resources/Reserves classification. Proven, probable and possible resources/reserves. Reserve estimation project.

CC 7690, Mining Engineering 225, Surface Mine Design. New course approved effective Fall 2010.

Catalog Description: Surface mining methods. Conventional methods for ore reserves estimation. Geomechanics, geometrics and computer-aided mine design, haul roads and waste dump design and layouts optimization. Materials scheduling and sequencing using a commercially available mine design software.

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

Prerequisites: Mi Eng 3

CC 7691, Mining Engineering 235, Underground Mine Design. New course approved effective Spring 2011.

Catalog Description: Underground mining methods. Parametric statistics and introductory geostatistics. Geomechanics, geometrics and computer-aided mine design. Empirical and numerical methods for mine openings, pillar and roof span design; caving and ore drawing mechanics. Materials scheduling and sequencing using commercially available software.

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

Prerequisites: Mi Eng 3

CC 7692, Mining Engineering 324, Underground Mining Methods and Equipment. The following changes are approved effective Fall 2010.

Catalog Description – Proposed: Principles of planning, construction, and operating economically viable surface mines. Cost effective mining methods: room-and-pillar, sublevel open stopping, VCR, shrinkage, sublevel caving, cut-and-fill, block caving, longwall. Selection of equipment for surface mining operations.

Optimization of mine performance. Field trip required.

Prerequisites – Present: Co-req. Mi Eng 221; Mi Eng 331

Proposed: Mi Eng 235, Mi Eng 270; co-req. Mi Eng 221; Mi Eng 331

CC 7693, Mining Engineering 326, Surface Mining Methods and Equipment. The following changes are approved effective Spring 2010.

Catalog Description – Proposed: Principles of planning, constructing, and operating economically viable surface mines. Cost effective mining methods: room-and-pillar, sublevel open stoping, VCR, shrinkage, sublevel caving, cut-and-fill, block caving, longwall. Selection of equipment for surface mining operations. Optimization of mine performance. Field trip required.

Prerequisites – Present: coreq. Mi Eng 221; Mi Eng 331

Proposed: Mi Eng 235, Mi Eng 270; coreq. Mi Eng 221; Mi Eng 331

CC 7694, Mining Engineering 331, Rock Mechanics I. The following changes are approved effective Spring 2010.

Course Title – Proposed: Rock Mechanics

Catalog Description – Proposed: Applications of the fundamental principles of mechanics to engineering problems of equilibrium, strength and stiffness of rock materials. Review of in-situ stresses, laboratory and field instrumentation, rock and rockmass properties, pillar design, roof span design, rock reinforcement, surface subsidence, slope stability, and violent failures.

Credit Hours – Present: 2 hour lecture

Proposed: 2 hour lecture, 1 hour lab, Total: 3

CC7695, Mining Engineering 332, Soils and Overburden Materials for Mining Engineering. New course approved effective Fall 2010.

Catalog Description: Physical and mechanical properties of soils and overburden materials. Soils and overburden characterization for reclamation and mine closure and overburden blasting. Soil failure modes and slope stability for surface mine layouts, waste dumps, tailings and earth dams, and foundations for heavy mining machinery.

Credit Hours: 2 hour lecture

Prerequisites: IDE 140, or IDE 50 and 150

CC 7696, Mining Engineering 392, Mine Design Project I. New course approved effective Spring 2010.

Catalog Description: Formation of mine design project teams and acquisition of project data from industry. Geostatistical methods for ore reserves estimation. Develop complete project schedule and milestones for executing the project tasks in Mi Eng 393 (Mine Design Project II). Set up database for Mi Eng 393 and interact with selected mine design software packages.

Credit Hours: 1 hour lab

Prerequisites: None

CC 7697, Mining Engineering 393, Mine Planning and Design. The following changes are approved effective Fall 2010.

Course Title – Proposed: Mine Design Project II

Catalog Description – Proposed: Capstone project with written and oral presentations.

Includes mine design and optimization, production plan, equipment and flowsheet design based on geology, resources/reserves, geotechnics, hydrology and hydrogeology. Project also incorporates markets, environmental and permitting, mine-mill organization, support facilities, economic and risk analyses.

Credit Hours – Present: 2 hour lecture, 2 hour lab, Total: 4

Proposed: 1 hour lecture, 3 hour lab, Total: 4

Prerequisites – Present: Completion of 110 hour in the Mining Engineering Curriculum

Proposed: Mi Eng 392 and completion of 110 hours in the Mining Engineering program

CC 7700, Arts, Languages & Philosophy 111, Global Village. New course approved effective Spring 2010.

Catalog Description: The course explores connections among language, art and culture at regional, national, and international scales. It aims to complement existing cross-cultural programs on campus while encouraging formal and informal interaction among students, faculty, alumni, and the campus community.

Credit Hours: .5 hour lecture

Prerequisites: Entrance requirements

CC 7701, Technical Communication 433, Proposal Writing. New course approved effective Spring 2010.

Catalog Description: Familiarizes graduate students with many aspects of writing proposals for various purposes in academic, professional, and public spheres. Offers opportunities to write documents to promote their academic, professional, and public spheres. Offers opportunities to write documents to promote their academic, professional, or personal goals or those of their organization(s).

Credit Hours: 3 hour lecture

Prerequisites: Graduate Standing

CC 7702, Psychology 345, Evolutionary Psychology. The following change is approved effective Spring 2010.

Prerequisites – Present: Psy 50 and psy 140

Proposed: Psy 50

CC 7705, Computer Science 378, Introduction to Neural Networks & Applications.

Course deletion approved effective Spring 2010.

CC 7708, Computer Science 468, Advanced Network Security. New course approved effective Spring 2010.

Catalog Description: Topics covered include network security issues such as authentication, anonymity, traceback, denial of service, confidentiality, forensics, etc. in wired and wireless networks. Students will have a clear, in-depth understanding of state of the art network security attacks and defenses.

Credit Hours: 3 hour lecture

Prerequisites: Cp Eng 349 or CS 385

CC 7712, IST 336, Foundations of Internet Computing. The following changes are approved effective Fall 2010.

Course Number – Proposed: IST 436

Catalog Description – Proposed: The foundations of Internet Computing include computer networks and web sites. Networks are covered thoroughly and research directions for networks are discussed. Web site design and research findings about site usability considerations are examined. Security of communications for computing, especially wireless communications, are explored.

Prerequisites – Present: IST MS entrance requirements.

Proposed: IST MS entrance requirements, including solid programming knowledge.

CC 7713, IST 461, Advanced Information Systems Project Management. New course effective Fall 2010.

Catalog Description: Project management principles, first from a general perspective, and then focused specifically on information system application development are explored. Topics include requirements analysis, project scheduling, risk management, quality assurance, testing, and team coordination. Report writing and research literature searches are required.

Credit Hours: 3 hour lecture

Prerequisites: IST MS Entrance requirements, with strong programming knowledge.

CC 7714, M&IS 397, Capstone Seminar in Management and Information Systems, Course deletion effective Spring 2010.

CC 7715, M&IS 101, Special Topics. Course deletion effective Spring 2010.

CC 7717, Art 30, Drawing II. The following change is approved effective Spring 2010.

Course Number – Proposed: Art 130

CC 7718, Art 50, Painting II. The following change is effective Spring 2010.

Course Number – Proposed: Art 150

CC 7726, Biological Sciences 358, Advanced Biodiversity. New course approved effective Spring 2010.

Catalog Description: This course focuses on the enhancement and reduction of biodiversity and modern techniques of measuring and monitoring it. Topics include biogeography, community structure, competition, predation, food webs, geology-biology relationships, environmental change, and human impact. Additional costs and a week-long field trip are required.

Credit Hours: 3 hour lecture

Prerequisites: Bio Sci 235 or Bio Sci 251

**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 2182, Business 301, Accounting and Finance Essentials, approved effective Spring 2010.

Course Description: An introduction to the essentials of financial and managerial accounting and finance for running a business designed for students planning to enter the MBA program and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in business, IST or economics.

Credit Hours: 3 hour lecture

Prerequisite: None

EC 2183, Business 301, Management, Marketing and Business Law Essentials, approved effective Spring 2010.

Course Description: An introduction to the essentials of management, marketing, and business law for running a business designed for students planning to enter the MBA program and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in business, IST, or economics.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2184, Business 301, Operations Management and Management Information Systems Essentials, approved effective Spring 2010.

Course Description: An introduction to the essentials of operations management and management information systems for running a business designed for students planning to enter the MBA program and for non-business students who want some business background. Credit in this course cannot be applied to any major or minor in business, IST, or economics.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2187, History 301, Making of Modern Germany, approved effective Spring 2010.

Course Description: A survey of modern Germany from Reformation through the present with special emphasis on nineteenth and twentieth centuries. Major themes include social, intellectual, cultural, political, and economic aspects of modern and contemporary Germany.

Credit Hours: 3 hour lecture

Prerequisites: History 112 or 175

EC 2188, Biological Sciences 301, Pharmacology, approved effective Spring 2010.

Course Description: The study of chemicals that produce specific biological effects, as well as the search for new agents of therapeutic value. We will consider basic principles of drug action at the cellular and molecular levels, the chemotherapy of microbial and neo-plastic diseases, and drug action on major physiological systems, including the nervous and cardiovascular systems.

Credit Hours: 3 hour lecture

Prerequisites: Bio Sci 211 and Chemistry 221

EC 2189, Biological Sciences 301, Nanobiotechnology, approved effective Spring 2010.

Course Description: nanotechnology has emerged to change human economy and society in many aspects. Applications of nanotechnology in life science is termed nanobiotechnology. This course describes recent development of nanobiotechnology in fundamental biological research as well as biomedical studies.

Credit Hours: 2 hour lecture

Prerequisites: Bio Sci 211 and Bio Sci 231

EC 2191, Marketing 301, Integrated Marketing Communications, approved effective Spring 2010.

Course Description: This course emphasizes the development of integrated marketing communications programs. Advertising, public relations, personal selling, promotional packaging, along with many other sales-stimulating methods and techniques are covered.

Credit Hours: 3 hour lecture

Prerequisites: Mkt 311

EC 2192, IST 301, Advanced Networking, approved effective Spring 2010.

Course Description: Explores advanced networking topics including scalable interworks, IPv6, spanning tree protocol, network and subnet IP addressing, optimized converged networks, "Green" technology, fiber optic technology, emergency preparedness, disaster recovery; configuring LANs, WANs, frame relay, ATM, routing protocols; includes labs and simulations.

Credit Hours: 3 hour lecture

Prerequisites: IST 321 or equivalent

EC 2195, History 301, Mark Twain's America, approved effective Spring 2010.

Course Description: This course will explore the life of Mark Twain (1835-1910), relating his life to the major social, economic, political, and intellectual developments in the United States that touched him, affected his ideas, and influenced his writing.

Credit Hours: 3 hour lecture

Prerequisites: Hist 175 or 176

EC 2199, Biological Sciences 301, Genomics, approved effective Spring 2010.

Course Description: This course offers a general overview of the field of genomics. Topics covered include genome sequencing and annotation, transcriptomics, proteomics, metabolomics, genomic variation, and an overview of human, and several animal, plant, and microbial genome projects.

Credit Hours: 3 hour lecture

Prerequisites: Bio 331 Molecular Genetics

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



