

Formerly University of Missouri-Rolla

Minutes Campus Curricula Committee Meeting August 14, 2008 Meeting 2:00 p.m. Room 117 Fulton Hall

Neil Anderson, Kate Drown, Shannon Fogg, Lance Gentry, Angie Huffman, Keith Nisbett, and Jennifer Thorpe attended the meetings.

#### **Review of submitted EC forms:**

EC 2064, Geological Engineering 101, Math 101, Mathematic Concepts for Military Geological Engineers, approved effective Fall 2008.

Course Description: Review of fundamental concepts in Algebra, Trigonometry and Calculus for students in Geological Engineering. Designed as a bridging course for Military Reserve officers enrolled in the On-Line Certificate in Military Geological Engineering.

Credit Hours: 2 hour lecture

Prerequisites: None

EC 2065, Geological Engineering 301, Fractured Rock Characterization, approved effective Fall 2008.

Course Description: Explores current theoretical approaches to characterizing rock masses containing joints, cracks, faults, fractures, etc. Topics include stresses, rigid block kinematics, rock mass strength and deformability, and fluid flow. Prerequisite to the "Fractured Rock Behavior" course.

Credit Hours: 3 hour lecture

Prerequisites: Min Eng 232 or Civ Eng 215 or Geo 220

EC 2066, Biological Sciences 401, Advanced Cancer Cell Biology, approved effective Fall 2008.

Course Description: Advanced cell biology course examining cellular processes that go awry during tumorigenesis. We will discuss cell cycle controls, signal transduction pathways, DNA repair, telomerase, apoptosis, cell migration and adhesion that are altered in cancer cells. In addition to lecture, will include a weekly section to examine primary cancer literature.

Credit Hours: 3 hour lecture

Prerequisites: Bio 211



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EC 2067, Mining Engineering 401, Truck Haulage Engineering and Haul Roads Efficiency, approved effective Fall 2008.

Course Description: This course will provide understanding into haul road design and safety requirements; and (ii) equip students with the ability to select, design, implement and supervise truck haulage in surface mines. It will include haul road design and safety; truck haulage design and safety; truck-road-service points; efficiency, productivity and economics; truck selection; ergonomics and risks.

Credit Hours: 3 hour lecture

Prerequisites: Consent of Instructor

EC 2068, Geological Engineering 201, IDE 201, Statics and Mechanics of Geologic Materials, approved effective Fall 2008.

Course Description: Fundamental statics of rigid bodies and mechanics of deformable bodies for entering graduate students, focusing on behavior of rock and soil in engineering situations. Not for students intending to register as professional engineers.

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2069, Chemistry 401, Organometallic Chemistry, approved effective Fall 2008.

Course Description: This course will cover the use of transition metal in organic synthesis with particular emphasis placed on issues of selectivity (regioselectivity and steroselectivity).

Credit Hours: 3 hour lecture

Prerequisites: None

EC 2073, Education 301, Professional Learning Communities Part 1, approved effective Fall 2008.

Course Description: This course will be based upon a study of current research and publications on professional learning communities. It is designed for school teams to begin the journey of developing a mission, vision, setting priorities and SMART goals. It will include the study of effective change processes in organizations and the utilization of leadership teams and collaborative teams to achieve goals.

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

Prerequisites: Graduate Standing



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EC 2074, Environmental Engineering 301, Architectural Engineering 301, Civil Engineering 301, approved effective Fall 2008.

Course Description: Indoor air pollution sources, physics, chemistry and consequences. Students learn how radon, cigarette smoke, VOCs from furnishings, etc. affect indoor air quality and how standards are set to improve indoor health and comfort. Students apply engineering analysis to building air to specify ventilation rates, choose furnishings and minimize occupant exposure to pollutants.

Credit Hours: 3 hour lecture

Prerequisites: CE 261 or ME 371 or Graduate Standing

EC 2075, Computer Science 401, Cryptography, approved effective Fall 2008.

Course Description: Foundations of Cryptography including number theory, private and public key schemes, and applications.

Credit Hours: 3 hour lecture Prerequisites: Graduate Standing

EC 2080, Mining Engineering 301, Diesel Particulate Matters Emissions Control, approved effective Fall 2008.

Course Description: Introductory of basic diesel particulate matters (DPM) occurrence in underground mines; health effects and control strategies; DPM regulations for both coal and non-coal operations; cost of DPM control on mining operations.

Credit Hours: 3 hour lecture

Prerequisites: Min Eng 318 and Min Eng 324

EC 2085, Mining Engineering 401, Life Cycle Assessment of Mining Systems, approved effective Fall 2008.

Course Description: Introduction to the concept of Life Cycle Assessment (LCA). LCA standards (ISO 1404x). Stages of LCA analysis: goal definition, scoping, inventory assessment, impact analysis, improvement analysis, reporting. LCA application in mining: limitation, trends, and research issues.

Credit Hours: 3 hour lecture

Prerequisites: Stat 213 or equivalent

EC 2088, Engineering Management 301, Quality Philosophy, approved effective Fall 2008.

Course Description: The course will cover an overview of the underlying philosophy, principles and concepts related to quality management. (Note: If you take this course, you can not take Emgt 375.)

Credit Hours: 1 hour lecture

Prerequisites: Senior or graduate standing

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EC 2089, Engineering Management 301, Quality Tools, approved effective Fall 2008. Course Description: The course will cover the quality analysis methods and processes for engineers in industry. (Note: if you take this course, you can not take Emgt 375.)

Credit Hours: 1 hour lecture

Prerequisites: Senior or graduate standing.

EC 2090, Engineering Management 301, Leadership, approved effective Fall 2008. Course Description: This course is an examination of modern theories of personal and corporate leadership, with particular emphasis on success of organizations in industry, government and education. (Note: If you take this course, you cannot take Emgt 375.)

Credit Hours 1 hour lecture

Prerequisites: Senior or graduate standing

EC 2102, Geological Engineering 401, Applications of Geological Engineering, approved effective Fall 2008.

Course Description: The course will focus on geological engineering considerations during military-site characterizations. Fundamental topics such as rock mechanics, engineering hazards, environmental issues and site planning will be covered from the perspective of the practicing military engineer operating in a rapid deployment mode.

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

Prerequisites: Permission of instructor. The course is intended for military officers registered in the MST FLW Masters of Science in Geological Engineering Degree Program.

The next meeting will be Tuesday September 2, 2008 @ 3:00 p.m. in 117 Fulton Hall.

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