



Memo To: Faculty Senate  
From: Missouri S&T Campus Curricula Committee Meeting  
RE: October 5, 2011

**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 0397, Business & Information Technology, Sustainable Business Minor. A proposal to create a new minor under Business called Sustainable Business approved effective Fall 2012.

**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 8156, Architectural Engineering 372, Residential Renewable Energy Systems. New course approved effective Spring 2012.

Catalog Description: Applications of renewable energy systems for residential use will be covered, including system selection and sizing. Economic and life cycle analysis will be used to evaluate solar, geothermal and wind power systems.

Credit Hours: 2 hour lecture, 1 hour lab

Prerequisites: Senior Standing and Consent of Instructor, or ME 227 or CE 242

CC 8169, GE 482, Surface Waves (MASW) & Ground Penetrating Radar (GPR). New course approved effective Spring 2012.

Catalog Description: Geological engineering applications of surface wave and ground penetrating radar methods are emphasized. Field data will be acquired, processed and interpreted.

Credit Hours: 2 hour lecture, 1 hour lab

Prerequisites: GE 50 or CE 215 or equivalent, and graduate standing

CC 8170, EE 309, Electric-Drive Vehicles. New course approved effective Spring 2012.  
Catalog Description: Course covers introductory topics related to understanding/analysis of electric, hybrid/plug-in hybrid power trains. Classification of hybrid drive trains, driving cycles, energy storage systems, mechanical coupling devices, automotive applications of fuel cells & intro to power converters.

Credit Hours: 3 hour lecture

Prerequisites: Senior Standing and Phys 24

CC 8171, History 227, History of Japan. New course approved effective Fall 2012.

Catalog Description: This course covers the history of modern Japan from 1600 to the present and includes Japan's political, social, and cultural/intellectual history.

Credit Hours: 3 hour lecture

Prerequisites: Hist 111 or Hist 112 or Hist 175 or Hist 176

CC 8172, IST 380, Introduction to Web and New Media Studies. New course approved effective Spring 2012.

Catalog Description: The course covers web culture, including topics such as social media, citizen journalism, crowd intelligence, privacy, and copyright. Students cannot receive credit for both this course and IST 480 (Advanced Web and New Media Studies).

Credit Hours: 3 hour lecture

Prerequisites: Junior or Senior Standing

CC 8173, ERP 342, Customer Relationship Management in ERP Environment. The following change is approved effective Spring 2012.

Prerequisites – Present: ERP 345 or ERP 444 or IST 444

Proposed: ERP 246 or preceded or accompanied by ERP 346

CC 8174, ERP 442, Advanced Customer Relationship Management in ERP Environment. The following change is approved effective Spring 2012.

Prerequisites – Present: ERP 345 or ERP 444 or IST 444

Proposed: ERP 246 or preceded or accompanied by ERP 346

CC 8175, ML 110, British Life & Culture. The following changes are approved effective Spring 2012.

Course Number – Proposed: English 104ML

Catalog Description – Proposed: This course offers students the opportunity to become familiar with a range of aspects of contemporary Britain through which they can understand the diverse nature of this country's society. Students will explore areas of British life including entertainment, sport, politics, religion and social problems. By the conclusion of the course students will have gained a good knowledge and understanding of contemporary British life and culture.

CC 8176, Business 340, Introduction to Business Innovation for Sustainability. New course approved effective Spring 2012.

Catalog Description: This course introduces a platform for students to focus on a variety of environmental sustainability issues and studies a business proposal for an ethical, sustainable, and profitable venture for a new or existing business, non-profit, or governmental organization. Cannot receive credit for both Business 340 and 440.

Credit Hours: 3 hour lecture

Prerequisites: Business 330 or equivalent

CC 8177, Russian 330, Business Russian. New course approved effective Spring 2012.

Catalog Description: The course addresses practical language skills and strategies for conducting business in Russian-speaking countries. Students will improve their knowledge of contemporary Russian culture and business etiquette. Readings, lectures, and discussions are in Russian. Lab work is required weekly.

Credit Hours: 2 hour lecture, 1 hour lab

Prerequisites: Russian 80

**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 2345, Electrical Engineering 301, Autonomous Wheeled Mobile Robots, approved effective Spring 2012.

Course Description: This course covers wheeled mobile robots and current approaches to robot autonomy. Topics will include modeling and control, sensors and estimation, localization and mapping, and motion planning in the context of wheeled mobile robots.

Credit Hours: 3 hour lecture

Prerequisites: EE 231 or equivalent and Stat 217 or equivalent

EC 2350, Ceramic Engineering 301, Formation and Properties of Glass-Ceramics, approved effective Spring 2012.

Course Description: This course will cover the formation and properties of glass-ceramics, including many common systems. Nucleation and growth of crystalline phases from glass forming melts will be described and the design of specific engineering properties due to crystallization will be emphasized.

Credit Hours: 3 hour lecture

Prerequisites: Cer Eng 103 or Graduate Standing

EC 2356, Statistics 401, Analysis of Categorical Data, approved effective Spring 2012.

Course Description: A graduate-level introduction to statistical methods for analyzing categorical data will be provided. Contingency tables, generalized linear models including logistic regression models, log-linear models, ordinal and nominal regression models, and Poisson regression will be discussed.

Credit Hours: 3 hour lecture

Prerequisites: Stat 343 and 344; one of Stat 346, 444 or 453

EC 2357, Mining Engineering 301, Diesel Particulate Matters Emissions Control, approved effective Spring 2012.

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

Credit Hours: 3 hour lecture

Prerequisites: Min 318 and Min 324

EC 2358, IST 401, Information Network Science, approved effective Spring 2012.

Course Description: Information networks are massive and complex, but contain amazing coherence. This course examines questions of the structure and evolution of information networks. Graph and random graph theory are introduced. Real-world applications such as search engines are considered.

Credit Hours: 3 hour lecture

Prerequisites: Math 8 and a 200 level or higher Statistics course

EC 2359, Mechanical Engineering 301, Aerospace Engineering 301, Introduction to Microfluidics, approved effective Spring 2012.

Course Description: An overview of interdisciplinary microfluidics covering special features of flow and mass transfer in microscale systems. CAD and analyses packages will be used to design and analyze microfluidic systems. Topics will include fabrication, system integration and large scale manufacturing.

Credit Hours: 3 hour lecture

Prerequisites: Math 22, Phys 24 or equivalent, and one from the following list: ME 231, AE 231, Ch Eng 231, Chem 241, EE 271, CE 230, Cer Eng 291

EC 2360, Civil Engineering 401, Fundamentals of Rheology and Self-Consolidating Concrete, approved effective Spring 2012.

Course Description: Discuss various rheological testing protocols and models applicable to cement-based materials and present relationships between rheological parameters and workability of grout and concrete. Understand the effect of rheology on key performance characteristics of specialty concretes, including self-consolidating concrete (SCC), underwater concrete, pumped concrete, and shotcrete. Examine mix design approach, placement considerations, engineering properties, and durability of SCC targeted for prestressed/precast and cast-in-place applications.

Credit Hours 3 hour lecture

Prerequisites: Graduate Standing and Consent of Instructor

EC 2367, Civil Engineering 401, Advanced Concrete Science and Technology, approved effective Fall 2012.

Course Description: Understand relationships between microstructure and macro-scale behavior of cement-based materials. Master various types of chemical admixtures and binder systems used in high-performance concrete. Discuss key engineering properties affecting behavior of structures, including mechanical properties, fatigue, toughness, dimensional stability, and thermal properties. Master different types of physical and chemical factors leading to concrete deterioration and mitigation.

Credit Hours: 3 hour lecture

Prerequisites: Graduate Standing and Consent of Instructor

EC 2368, ERP 301, ERP-Enabled Sustainability Management Systems, approved effective Fall 2012.

Course Descriptions: The course addresses how sustainability management systems can be used to reduce compliance costs and business risks and to establish Green IT practices. SAP's EHS Management, Sustainability Analytics, Carbon Impact, or similar are used to enhance learning experience.

Credit Hours: 3 hour lecture

Prerequisites: IST 50 and at least Junior Standing



EC 2369, Business 301, Ethical Problems in International Business, approved effective Summer 2012.

Course Description: Focuses on the international dimension of business ethics including corporate responsibility in economic, social, and environmental terms. It addresses the ethical challenges of international business as part of corporate decision making, corporate citizenship, stakeholder engagement, partnerships, and governance at micro- (personal), meso- (organization), and macro- (system) levels.

Credit Hours: 3 hour lecture

Prerequisites: Bus 110 or Bus 375 or Phil 235

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Daniel Tauritz, Chair  
Missouri S&T Campus Curricula Committee