

Minutes

Campus Curricula Committee Meeting

April 7, 2009 Meeting

3:00 p.m. Room 117 Fulton Hall

Approval of March 3, 2008 minutes.

Jerry Bayless, Kate Drowne, John Hogan, Angie Huffman, Irina Ivliyeva, Keith Nisbett, Don Sharpsteen, and Jennifer Thorpe attended the meeting. Guests were Curt Elmore.

**Review of submitted DC forms:**

DC 0307, Global Studies Minor, approved effective Fall 2009. This DC proposal was originally approved at the Jan. 6, 2009, meeting. At the request of the RP&A committee, this proposal was reconsidered after soliciting and obtaining from the Global Studies Minor committee a list of approved courses and a process for adding to the list of courses. See Addendum A for current documentation accompanying DC 0307, including catalog description, course listings, and procedures for modifying course listings.

DC 0310, Electrical Engineering, approved effective Fall 2009. A proposal to modify the current Bachelor of Science in Electrical Engineering by increasing EE 271 to 4 credit hours and deleting EE 272 which is a 1 hour lab, from the curriculum.

DC 0311, Computer Engineering, approved effective Fall 2009. A proposal to modify the current Computer Engineering elective requirements for the Bachelor of Science in Computer Engineering.

DC 0312, Electrical Engineering, approved effective Fall 2009. A proposal to modify the current Electrical Engineering elective requirements for the Bachelor of Science in Electrical Engineering.

DC 0313, Biomaterials, approved effective Fall 2009. A proposal to place on Inactive Status the Master of Science in Biomaterials.

DC 0314, Psychology, approved effective Fall 2009. A proposal to add the following courses as Capstone courses to fulfill the requirement for the BS and BA degree: Psych 375 or 380 or 302 or 312 or 350.

DC 0315, Geological Engineering, approved effective Fall 2009. A proposal to modify the current curriculum for the Bachelor of Science in Geological Engineering by allowing GE 352 for senior design credit.

DC 0316, Geological Engineering, approved effective Fall 2009. A proposal to modify the current geophysics elective for the Bachelor of Science in Geological Engineering.

DC 0317, Geological Engineering, approved effective Fall 2009. A proposal to modify the current Earth Energy electives for the Bachelor of Science in Geological Engineering.

DC 0318, Geological Engineering, approved effective Fall 2009. A proposal to modify the requirements for the following emphasis areas under Geological Engineering: Geological Engineering, Environmental Protection and Hazardous Waste Management, Groundwater Hydrogeology and contaminant Transport, Engineering Geology and Geotechnics, Petroleum, Energy and Natural Resources, and Quarry Engineering.

DC 0319, Chemistry non-ACS certified, approved effective Fall 2009. A proposal to inactivate the BS in Chemistry non-ACS certified.

DC 0320, Civil Engineering, approved effective Fall 2009. A proposal to modify the current curriculum for the BS in Civil Engineering by eliminating two free electives, making both CE 221 and CE 223 required, and adding a CE technical elective.

DC 0321, Architectural Engineering, approved effective Fall 2009. A proposal to modify the current curriculum for the BS in Architectural Engineering by eliminating one free elective, making both ArchE 103 and ArchE 205 three credit hour courses, and add Chem 4 as required.

**Review of submitted CC forms:**

CC 7567, Petroleum Engineering 241, Petroleum Reservoir Engineering. The following change is approved effective Fall 2009.

Prerequisites – Present: Math 22, accompanied or preceded by Pet Eng 141 or senior standing.

Proposed: Accompanied or preceded by Pe Eng 240

CC 7568, Petroleum Engineering 242, Petroleum Reservoir Laboratory. The following change is approved effective Fall 2009.

Prerequisite – Present: Accompanied by PE Eng 241

Proposed: Accompanied or preceded by Pe Eng 241

CC 7569, Petroleum Engineering 302, Offshore Petroleum Technology. The following change is approved effective Fall 2009.

Prerequisite – Present: PE 131 recommended

Proposed: None

CC 7570, Petroleum Engineering 303, Environmental Petroleum Applications, effective Fall 2009.

Prerequisite – Present: Senior Standing  
Proposed: Chem 1

CC 7571, Petroleum Engineering 308, Applied Reservoir Simulation. The following change is approved effective Fall 2009.

Prerequisite – Present: Co-requisite: Pe Eng 257  
Proposed: Pe Eng 241

CC 7572, Petroleum Engineering 314, Advanced Drilling Technology. The following changes are approved effective Fall 2009.

Catalog Description – Proposed: In-depth studies of directional well planning and bottom hole assemblies, hole problems and wellbore stability in deviated wells; computer aided drilling optimization and drill bit selection for directional wells.

Prerequisites – Present: Pe Eng 131, Cv Eng 230, Cmp Sc 73 Co-requisite: Pe Eng 257  
Proposed: Pe Eng 331

CC 7573, Petroleum Engineering 331, Drilling and Well Design. The following change is approved effective Fall 2009.

Prerequisites – Present: Preceded or accompanied by Civ Eng 230  
Proposed: Pe Eng 121. Preceded or accompanied by  
Civ Eng 230

CC 7574, Petroleum Engineering 333, Reservoir Characterization. The following change is approved effective Fall 2009.

Prerequisites – Present: None  
Proposed: Pe Eng 241, Pe Eng 232; Geo 332 or Geo 340

CC 7577, Petroleum Engineering 341, Well Test Analysis. The following change is approved effective Fall 2009.

Prerequisites – Present: Pe Eng 241 and Math 204  
Proposed: Pe Eng 241

CC 7578, Civil Engineering 369, Environmental Engineering 369, Sanitary Engineering Design. The following changes are approved effective Spring 2010.

Course Title – Proposed: Environmental Engineering Design

Catalog Description – Proposed: Functional design of water and wastewater facilities and other environmental cleanup systems.

Prerequisites – Present: Civ Eng 265

CC 7579, Environmental Engineering 369, Civil Engineering 369, Sanitary Engineering Design. The following changes are approved effective Spring 2010.  
Course Title – Proposed: Environmental Engineering Design

Catalog Description – Proposed: Functional design of water and wastewater facilities and other environmental cleanup systems.

Prerequisites – Present: CE 265  
Proposed: CE 265 or Env Eng 265

CC 7580, Civil Engineering 263, Environmental Engineering 263, Chemical Fundamentals of Environmental Engineering. The following changes are approved effective Fall 2009.

Credit Hours – Present: 3 hour lecture  
Proposed: 2 hour lecture, 1 hour lab, Total: 3

CC 7581, Environmental Engineering 263, Civil Engineering 263, Chemical Fundamentals of Environmental Engineering. The following change is approved effective Fall 2009.

Credit Hours – Present: 3 hour lecture  
Proposed: 2 hour lecture, 1 hour lab, Total: 3

CC 7582, Spanish 302, Phonetics & Phonology of Spanish. New course approved effective Fall 2009.

Catalog Description: Theoretical and practical approach to the phonetics and phonology of Spanish from the dual perspective of the mental representation of the sound system and pronunciation within syllables, words and phrases. Practice in listening comprehension, and sound discrimination with transcription exercise.

Credit Hours: 3 hour lecture  
Prerequisites: Spanish 80

CC 7583, Psychology 290, History of Psychology. The following change is approved effective Fall 2009.

Catalog Description – Proposed: An examination of the origin of psychology within the framework of philosophy and science. Traces the major trends, schools, and individuals. Major scientific, cultural, philosophical and personal influences in the development of psychology.

CC 7584, Psychology 380, Cross-Cultural Psychology. The following changes have been approved effective Fall 2009.

Catalog Description – Proposed: Study of the impact of ethnic and national culture on psychological processes and behaviors. Topics include the effects of individualism and collectivism on patterns of socialization, personality, motivation, emotion and cognition; cultural differences in diagnosis and treatment of mental and physical health; and group and organizational behavior.

Prerequisites – Present: Psych 50 and Psych 155 or Psych 270

Proposed: Psych 50

CC 7585, Psychology 375, Health Psychology. The following change is approved effective Fall 2009.

Catalog Description – Proposed: This course examines Health Psychology. Topics include basic behavioral pharmacology (involving alcohol & other drugs), illusions of invulnerability to risk, stress and coping, and the science of persuading people to protect their health. Students learn how to construct a public service announcement towards a societal problem as part of the course.

CC 7586, Psychology 316, Psychology of Leadership. The following change is approved effective Fall 2009.

Catalog Description – Proposed: Examination of conceptual and empirical research on determinants of effective vs. ineffective leadership. Topics include leadership measurement, traits, skills, leader-member exchange, charismatic and transformational leadership, change management, team leadership, and ethical leadership. Practical guidelines for developing leadership skills are discussed.

CC 7587, Psychology 312, Practicum. The following changes have been approved effective Fall 2009.

Catalog Description – Proposed: Practicum involves experience in a human service setting. Depending on the student background and setting, activities may involve learning psychological testing, interviewing, assessment and/or counseling skills.

Prerequisites – Present: Psych 50 and psych 262 or 364 or 268 or 356, and instructor approval.

Proposed: Psych 50; Psych 356, 362, 364, or 368.

CC 7588, Psychology 315, Environmental Psychology. The following change is approved effective Fall 2009.

Catalog Description – Proposed: An examination of the psychological effects of various environmental designs and ways to design environments effectively. Topics include: environmental attitudes, perception, and cognition; environmental influences, crowding, and the application of environmental design principles to living, educational, work, and recreational settings.

CC 7589, Psychology 372, Group Dynamics. The following change is approved effective Fall 2009.

Catalog Description – Proposed: A review of the concepts and theories related to group dynamics. Topics include group goals, communication within groups, group structure, norms, leadership, decision making, controversy, conflict resolution, power, diversity issues, and team development.

CC 7590, Psychology 390, Undergraduate Research, The following change is approved effective Fall 2009.

Prerequisite – Present: None

Proposed: Instructor Consent

CC 7591, Psychology 354, Psychology of the Exceptional Child. The following change is approved effective Fall 2009.

Catalog Description – Proposed: Study of the psychology of children on both ends of the educational spectrum. The course presents the fundamentals of providing services as well as understanding the abilities and disabilities of children classified as exceptional. Includes coverage of various disabilities, and the implications of dealing with personal, family and classroom issues.

CC 7592, Psychology 364, Theory and Practice of Psychological Testing. The following changes are approved effective Fall 2009.

Course Title – Proposed: Tests and Measurements

Catalog Description – Proposed: Theoretical and statistical basis of psychological testing and measurement; test development and validation; examination of standardized tests of intelligence, aptitude, interest, personality, attitudes, and psychopathology; use of test and test batteries for diagnostics and prediction of criteria.

CC 7593, Psychology 368, Clinical Psychology. The following change is approved effective Fall 2009.

Prerequisites – Present: Psych 50 and Psych 262

Proposed: psych 50 and Psych 362

CC 7594, Psychology 370, Advanced Social Psychology. The following change is approved effective Fall 2009.

Prerequisites – Present: Psych 270

Proposed: Psych 308

CC 7595, Psychology 155, Educational Psychology. The following change is approved effective Fall 2009.

Catalog Description – Proposed: Principles of psychology relevant to the field of education. Course covers theoretical and applied information on such topics as human growth and development, and cognitive and behavioral views of learning and intelligence. The course also covers motivation, creation of learning environments, measurement and evaluation of learning.

CC 7596, Psychology 208, Adolescent Psychology. The following change is approved effective Fall 2009.

Catalog Description – Proposed: An examination of the biological, social, and cognitive transitions that occur during adolescence. Other topics include the role of families, the role of peers, the adolescent identity, sexuality, the impact of schools, the role of achievement, how adolescents spend their time (work, leisure), the role of the media, and problems encountered by the adolescent.

CC 7597, Psychology 246, Motivation & Emotion. The following change is approved effective Fall 2009.

Catalog Description – Proposed: An examination of the ways in which situational, cognitive, and emotional factors influence, and are influenced by, human motivation.

CC 7598, Psychology 250, Developmental Psychology. The following change is approved effective Fall 2009.

Catalog Description – Proposed: A study of human growth and development across the lifespan. The course emphasizes the interaction of physical, psychological, and social changes and their resulting impact on the developing person at all stages in life.

CC 7599, Psychology 302, Internship. The following change is approved effective Fall 2009.

Prerequisites – Present: Senior. Must have completed 24 hours in major

Proposed: Junior or Senior Psychology major; consent of instructor; must have completed 9 hours in major

CC 7600, Psychology 305, Cognitive Psychology. The following change is approved effective Fall 2009.

Catalog Description – Proposed: This course covers basic cognitive processes and their application. Theory and research are presented on attention, perception, memory, problem solving, decision making and language.

CC 7601, Chemical Engineering 346, Introduction to Nanomaterials. New course approved effective Fall 2009.

Catalog Description: Introduction of the fundamentals of nanomaterials and recent developments on nanomaterials. Topics include physical and chemical properties, synthesis, processing, and applications of nanomaterials. Example nanomaterials include nanoparticles, nanotubes, and nanowires.

Credit Hours: 3 hour lecture

Prerequisites: Ch Eng 145, or Mt eng 125, or Chem 3

CC 7602, Chemical Engineering 382, Hazardous Materials Management. New course approved effective Fall 2009.

Catalog Description: Major themes: hazard identification and characterization; safety, health and environmental management; and the protection of safety, health and environment. Students will have an understanding of work place and environmental hazards in order to be able to facilitate their management and control. The course will include an intensive 30 hour hands-on workshop.

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

Prerequisites: Chem Eng 235 or graduate standing

CC 7603, IST 487, Research Methods in Human-Computer Interaction. The following changes are approved effective Fall 2009.

Catalog Description – Proposed: This course covers quantitative and qualitative research methods for exploring the interaction between people and information technologies. The course covers techniques and tools for carrying out literature reviews, forming research goals, designing research, conducting data analyses; and preparing manuscripts and live presentations.

Prerequisites – Present: IST 387

Proposed: IST 385



CC 7604, Engineering Management 309, The Six Sigma Way. The following changes are approved effective Summer 2009.

Course Title – Proposed: Six Sigma

Catalog Description – Proposed: The course is an introduction to the principles of implementing the six Sigma philosophy and methodology. Topics include tools and methods including process flow diagrams, cause and effect diagrams, failure mode and effects analysis, gage R&R, capability studies, design of experiments and strategy for organizing six sigma techniques in industry.

CC 7609, Chemistry 428, Spectrometric Identification of Organic Compounds. New course approved effective Fall 2009.

Catalog Description: Overview of MS and IR techniques in the characterization of organic compounds; CD/ORD; <sup>1</sup>H, <sup>13</sup>C, and heteronuclear NMR spectroscopy in the structural analysis; applications of APT, DEPT, <sup>1</sup>H-<sup>1</sup>H COSY, HETCOR, HMQC, HMBC, INADEQUATE, TOCSY, NOE and NOESY, and dynamic NMR.

Credit Hours: 3 hour lecture

Prerequisites: Chem 223

CC 7610, Metallurgical Engineering 363, Metal Coating Processes. The following change is approved effective Fall 2009.

Prerequisites – Present: Mt Eng 202, 203

Proposed: Senior or Graduate Standing

CC 7611, Geological Engineering 331, Subsurface Hydrology. The following change is approved effective Fall 2009.

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

Proposed: 3 hour lecture

CC 7613, Geological Engineering 374, Engineering Geologic Field Methods. The following changes are approved effective Spring 2010.

Course Title – Proposed: Geological Engineering Field Methods

Catalog Description – Proposed: Instruction in methods of field investigation required for geological engineering studies. Course will include procedures for qualitative and quantitative data collection for characterizing surficial geologic conditions, groundwater and surface water investigations, and other engineering activities.

Written reports are required.

Prerequisites – Present: GE 373

Proposed: None

CC 7614, Petroleum Engineering 323, Artificial Lift. The following change is approved effective Fall 2009.

Prerequisites – Present: PE 241 or equivalent  
Proposed: PE 316

CC 7615, Electrical Engineering 271, Electromagnetics. The following change is approved effective Fall 2009.

Credit Hours – Present: 3 hour lecture  
Proposed: 4 hour lecture

CC 7616, Electrical Engineering 272, Electromagnetics Laboratory. Course deletion approved effective Fall 2009.

CC 7622, Computer Science 406, Software Engineering II. The following change is approved effective Fall 2009.

Prerequisites – Present: CS 306  
Proposed: CS 206

CC 7623, Psychology 330, Neuroscience. The following change is approved effective Fall 2009.

Catalog Description – Proposed: The neurophysiological bases of behavior and cognition are examined. Topics covered include neuroanatomy, neurotransmission, neuropharmacology, brain systems, learning and memory, emotion, attention and consciousness, and neurologic/psychological disorders.

CC 7624, Geological Engineering 477, Discontinuous Rock. The following change is approved effective Fall 2009.

Prerequisites – Present: Mi Eng 231 or Ge Eng 371  
Proposed: Mi Eng 331 or Ge Eng 371

CC 7625, Geological Engineering 356, Renewable Energy Systems. New course approved effective Fall 2009.

Catalog Description: Introduction to the theory and performance prediction of typical renewable energy systems such as, but not limited to, those based on energy from the sun, wind and water, and geothermal. The use of environmental data, including stochastic modeling, for renewable energy system (including wind turbine, photovoltaic, and geothermal) design is addressed.

Credit Hours: 3 hour lecture

Prerequisites: Math 204, Phys 24, and preceded or accompanied by stat 217 or GE 315.  
Junior or senior status is required.

CC 7626, Civil Engineering 211, Transportation Engineering. The following change is approved effective Fall 2009.

Prerequisites – Present: CE 1, IDE 50

Proposed: CE 1, CE 3

CC 7627, Civil Engineering 241, Economy of Engineering Design. Course deletion approved effective Fall 2009.

CC 7628, Civil Engineering 299, Civil Engineering Design. Course deletion approved effective Fall 2009.

CC 7629, Civil Engineering 385, Patent Law. Course deletion approved effective Fall 2009.

CC 7630, Architectural Engineering 103, Architectural Materials and Methods of Construction. The following change is approved effective Fall 2009.

Credit Hours – Present: 2 hour lecture

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

CC 7631, Architectural Engineering 205, Building Electrical and Lighting Systems. The following change is approved effective Fall 2009.

Credit Hours – Present: 2 hour lecture

Proposed: 3 hour lecture

CC 7632, Civil Engineering 351, Transportation applications of Geophysics. New course approved effective Fall 2009.

Catalog Description: Overview of geophysical and non-destructive test methods that are commonly used to investigate transportation structures and their foundations.

Emphasis is placed on bridge system substructure, bridge system superstructure, pavement, roadway subsidence, subsurface characterization and vibration measurements.

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

Prerequisites: Junior level standing or higher

Co-listing: GE 361, Geophysics 361

CC 7633, Geological Engineering 361, Transportation applications of Geophysics.

Adding co-listing effective Fall 2009.

Co-listing: CE 351

CC 7634, Computer Science 345, Introduction To Robotic Systems. The following changes are approved effective Fall 2009.

Course Title – Proposed: Computational Robotic Manipulation

Catalog Description – Proposed: Analysis of methods for the design and operation of robotic systems. Spatial descriptions and transformations. Arm control: coordinate transformations. Manipulator Kinematics and inverse Kinematics. Jacobians: velocities and static forces. Robot path trajectory generation. Project: programming robot motion control visualization.

Prerequisite – Present: Math 22, Physics 24, (Cmp Sc 158 or Cmp Sc 228)

Proposed: CS 253; Math 208; Physics 24 or Physics 25

**Review of submitted EC forms:**

EC 2156, Computer Science 301, Agile Software Development, approved effective Fall 2009.

Course Description: Understand principles of agile software development and contrast them with prescriptive processes. Specifically: eliciting, organizing, and prioritizing requirements; design, implementation, test processes; understand how a particular process promotes quality; estimate costs and measure project progress and productivity. Projects will utilize agile processes.

Credit Hours: 3 hour lecture

Prerequisites: CS 206

EC 2157, Computer Science 401, Cryptography, approved effective Fall 2009.

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

Credit Hours: 3 hour lecture

Prerequisites: Graduate Standing

EC 2158, Computer Science 201, Introduction to Computer Security, approved effective Fall 2009.

Course Description: This course provides an entry point for the study of computer security and encompasses threats and vulnerabilities and trust, security policies, and enforcement. Specific topics include access control, risk management, systems and application life cycle, physical security, key management, transmission security and cryptography.

Credit Hours: 3 hour lecture

Prerequisites: at least Sophomore Standing

EC 2159, ERP 401, Customer Relationship Management in ERP Environment, approved effective Fall 2009.

Course Description: This course emphasizes identification (targeting), acquisition, retention, and development (expansion) of (profitable) customers. It also covers effective and efficient management of customers with utilization of information technology. The SAP CRM and SAS BI tools are used to enhance student education with real world applications and prepare graduates for future career requirements.

Credit Hours: 3 hour lecture

Prerequisites: ERP 345

EC 2160, Business 401, Managerial Finance, approved effective Fall 2009.

Course Description: This course covers the use of financial tools to manage the organization. The main focus is the strategic decision-making process of modern managers responsible for major financial decisions. Topics include financial policy, capital investment analysis, dividend policy, capital structure, and other contemporary corporate finance issues.

Credit Hours: 3 hour lecture

Prerequisites: Fin 305/405 or equivalent

EC 2161, English 301, Southern Culture, approved effective Fall 2009.

Course Description: This course will survey the culture of the American south, especially since the end of the Civil War. Through fiction, non-fiction, film and music, we will examine the ways that race, religion, history and other factors have shaped southerners' understandings of themselves and their place in the American nation.

Credit Hours: 3 hour lecture

Prerequisites: English 20 and a semester of college literature

EC 2162, Russian 201, English 201, Russian Literature as cultural phenomenon, approved effective Fall 2009.

Course Description: The class provides access to Russian literature in translation (10<sup>th</sup>-19<sup>th</sup> centuries) and broadens students' Russian cultural experience by exploring epic poems, fairy tales, religious texts, legal documents, memoirs. Cultural context, philosophical concepts and historical events are analyzed through Russian art, music and film.

Credit Hours: 3 hour lecture

Prerequisites: English 20 or one semester of college literature

EC 2163, Chemical Engineering 301, Renewable Energy, approved effective Fall 2009.  
Course Description: A study of renewable energy technologies, including biomass, solar, geothermal, and wind energy collection and conversion. Introduction to hydrogen technologies and fuel cells. Analysis and technical design of renewable energy processes.

Credit Hours: 3 hour lecture

Prerequisites: Senior or Graduate Standing

EC 2164, Geological Engineering 301, Surface Waves (MASW) & Ground Penetrating Radar (GPR), approved effective Summer 2009.

Course Description: Basic theory and the acquisition, processing and interpretation of surface waves (MASW and ReMi) and ground penetrating radar (GPR) data are covered. Emphasis is placed on geotechnical and structural applications of these non-invasive imaging technologies. Numerous case studies are presented in order to illustrate the utility of these geophysical tools.

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

Prerequisites: Junior level standing or higher

The meeting adjourned at 4:15 p.m. The next meeting will be Tuesday May 5, 2009 @ 3:00 p.m. in 117 Fulton Hall.

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

## **Addendum A**

### **Updated documentation for DC 0307 Global Studies Minor**

**Recommended for approval by Curricula Committee on April 7, 2009**

#### **C A T A L O G D E S C R I P T I O N**

Global Studies is a multi-disciplinary undergraduate minor program designed to aid in the preparation of Missouri S&T students to be successful in an increasingly global workforce. Students who complete the Global Studies minor will have an increased awareness of the society, culture, technical issues, and/or language of at least one country other than the United States prior to the completion of their Missouri S&T undergraduate experience. Any Missouri S&T student enrolled in an undergraduate degree program is eligible for the Global Studies minor program, which consists of 12 credit hours from an approved list of classes and at least 2 weeks (14 days) of experience in a foreign country acquired during an approved Missouri S&T class or research project, Missouri S&T extracurricular activity, and/or Missouri S&T study abroad activity. Courses must be selected from the list of approved courses maintained by the Global Studies Advisory Committee. At least one three hour course must focus on the society, culture, and/or language of a foreign country. Approved courses that meet this criterion are from the Arts, Languages, Humanities, or Social Sciences. The other nine hours comes from approved course s that includes at least 25 percent international studies content. "International studies content" is defined as course content addressing countries or regions outside of the United States. "International studies content" does not include content that is universal but rather that which addresses specific countries or regions outside of the United States. To satisfy the multi-disciplinary aspect of the minor, no more than six hours may be taken from a single Missouri S&T degree program. The minor requires personal experience in a foreign country. Students will participate in one or more approved Missouri S&T - sponsored trips to a foreign country for no less than 14 days total. Examples of approved trips include, but are not limited to, those that may be a part of Missouri S&T classes and/or an OURE project-related trip, an extracurricular activity including Missouri S&T's Engineers Without Borders field trips, and/or Missouri S&T sanctioned study abroad. The list of approved activities is maintained by the Global Studies Advisory Committee.

**Curriculum criteria**

Courses that qualify for inclusion in the Global Studies Minor (GSM) must include at least 25 percent international studies content which addresses specific countries or regions outside of the United States. To qualify for inclusion on this list, the course syllabus must state that a minimum of 25 percent of the overall course content (for example, course grade, lecture material, readings, exercises, or case studies) is based on international content. All GSM courses must be approved by the GSM Advisory Committee. Students may take a maximum of 9 credit hours from Course List A. No more than 6 credit hours can be taken in a single course listing category.

*Courses focusing on the society, culture, and/or language of a foreign country.* Courses that meet this criterion must be from the Arts, Languages, Humanities, or Social Sciences with the majority of the content focusing on the society, culture, and/or language of a foreign country. Students must take a total of at least 3 credit hours from this category (see Course List B) . No more than 6 credit hours can be taken in a single course listing category.

**Course List A – Courses with general international content.**

ArchE/CE/EnvE 301 – Sustainability: Population, Energy, Water, and Materials  
 BioSci 151 – Introduction to Environmental Issues  
 BioSci 354 – Freshwater Ecology  
 Bus 3 75 – International Business  
 EMGT 366 – Business Logistics Systems Analysis  
 GE301 – Geology & Engineering of Ancient and Modern Peru  
 GE 331 – Subsurface Hydrology  
 GE 347 – Introduction to International Engineering & Design (lecture)  
 GE/CerE/MetE 352 – International Engineering & Design  
 GE 356 – Renewable Energy Systems  
 GE 381 – Intermediate Subsurface Hydrology and Transport Mechanics

**Course List B – Courses focusing on the society, culture, and/or language of a foreign country.**

French 1 – Elementary French I  
 French 2 – Elementary French II  
 French 80 – French Readings and Composition  
 French 90 – Scientific French  
 French 110 – Basic French Conversation  
 French 311 – French Culture & Civilization  
 French 370 – Survey of French Literature I  
 French 375 – Survey of French Literature II  
 German 1 – Elementary German I  
 German 2 – Elementary German II  
 German 80 – Classical and Modern German Readings  
 German 90 – Scientific German



German 110 – Basic German Conversation  
German 170 – Masterpieces of German Literature  
German 311 – Advanced German Conversation  
German 370 – Survey of German Literature I  
German 375 – Survey of German Literature II (Modern Period) German 385 – The German Novelle  
Hist 301 – History of Africa  
Hist 301 – Gender, Culture, and Politics: France and Germany, 1914 - 1945 Hist 301 – Nazi Germany and the Holocaust  
Hist 222 – The Making of Modern France  
Phil 75 – Comparative Religious Philosophy  
PolSci 225 – Comparative Politics  
PolSci 226 – International Relations  
PolSci 350 – Politics of the Third World  
Psych 380 – Cross- Cultural Psychology  
Russian 1 – Elementary Russian I  
Russian 2 – Elementary Russian II  
Russian 80 – Readings in Science and Literature  
Russian 110 – Basic Russian Conversation  
Russian 170 – Masterpieces of Russian Literature  
Russian 180 – Basic Russian Composition  
Russian 311 – Advanced Russian Conversation  
Russian 360 – Russian Civilization  
Russian 370 – Survey of Russian Literature I  
Russian 375 – Survey of Russian Literature II  
Spanish 1 – Elementary Spanish I  
Spanish 2 – Elementary Spanish II  
Spanish 60 – Hispanic Civilization Spanish 170 – Masterpieces of Hispanic Literature  
Spanish 180 – Intermediate Spanish Composition Spanish 80 – Readings and Composition Spanish 90 – Scientific Spanish  
Spanish 110 – Basic Spanish Conversation SP&MS 235 – Intercultural Communication

**List C - Personal experience in a foreign country.**

A personal experience in a foreign country is required. Students will participate in one or more approved Missouri S&T – sponsored trips to a foreign country for no less than 14 days total. Students may combine credit from more than one trip to achieve the 14 day total. The following trips are approved for credit towards this requirement: 1. **Trips that are a formal part of a Missouri S&T course** (trip must be indicated on the course syllabus as a required component of the course). Students must submit to the Global Studies Advisory Committee the course syllabus and a written statement from the course instructor specifying the dates of the trip. Upon completion of the trip students must submit a written statement from the course instructor indicating that the student successfully completed the trip as part of the course.

2. **Trips which are required as a part of a formal program of undergraduate or graduate research.** Students must submit to the Global Studies Advisory Committee a one page description of the international research experience and a written statement from the faculty member who is directing the research specifying the dates of the trip. Upon completion of the trip students must submit a written statement from the research director indicating that the student successfully completed the trip.

3. **Trips that are performed as a formal part of the Missouri S&T Engineers Without Borders (EWB) chapter.** Students must submit to the Global Studies Advisory Committee a one page description of the international extracurricular experience and a written statement from the EWB faculty advisor supervising the trip indicating the dates of the trip. Upon completion of the trip students must submit a written statement from the EWB faculty advisor indicating that the student successfully completed the trip.

4. **Trips that are performed during a formal Missouri S&T study abroad activity.** Students must submit to the Global Studies Advisory Committee a one page description of the study abroad experience and written statement from the Missouri S&T International Affairs Office specifying the dates of the trip. Upon completion of the trip students must submit a written statement from the International Affairs Office indicating that the student successfully completed the trip.

5. **Other types of trips** may be approved by the Global Studies Advisory Committee if the experience is an approved Missouri S&T sponsored trip to a foreign country, and written documentation is submitted to the committee in advance of the trip specifying the nature of the international experience, accompanied by a statement specifying the dates of the trip written by the Missouri S&T faculty or staff member supervising the trip. Upon completion of any approved trip, students must submit a written statement from the supervising faculty or staff member indicating that the student successfully completed the trip.

**Modifications to course lists or international experiences**

Additions to or deletions from Course Lists A or B or List C - international experiences maybe proposed by faculty members in any Missouri S&T undergraduate degree program. Requested modifications must be submitted in writing to the Global Studies Minor Advisory Committee before the end of the third week of classes during the current semester. The Global Studies Advisory Committee will publish the list of submitted modifications and the list of modifications preliminarily approved by the committee on the Campus Curricula Committee website (<http://registrar.mst.edu/currcom/index.html> ) no later than the end of the sixth week of the current semester.

Missouri S&T faculty will be invited provide written input regarding the list of submitted modifications through the end of the tenth week of the current semester. The Advisory Committee will consider the written input prior to publishing the list of approved courses and experiences (including recent modifications) no later than the end of the 14th week of classes of the current semester. The list will be published on the “Quick Links for Students” portion of the Missouri S&T Vice Provost for Undergraduate Studies website (<http://ugs.mst.edu/>).