



MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Formerly University of Missouri-Rolla

Agenda
Campus Curricula Committee Meeting
August 2012 Meeting

New Business:

The committee will need to conduct CCC Chair elections for the upcoming 2012-2013 academic year.

Review of submitted EC forms:

EC 2411, Mining Engineering 401, Acoustic Emission/Microseismicity, effective Fall 2012.

EC 2413, Geophysics 401, Advanced Seismic Stratigraphy, effective Fall 2012.

Effective Year: 2012
Effective Term: Summer Fall Spring

EC File # 2411-552012-MinE-401

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved SP2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: Mining and Nuclear Engineering

Discipline and Course Number: MinE 401

Course Title: Acoustic emission/microseismicity

Abbreviated Title (24 spaces or less): AE/MS

Instructor(s): Mao Chen Ge

Credit Hours: Lecture: 3 Lab: Total: 3

Prerequisites: none

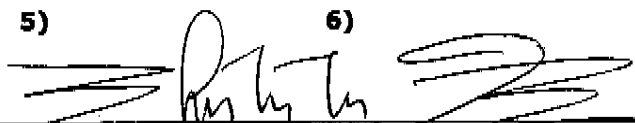
Semester(s) previously taught: n/a

Brief Course Description: (40 words or less)

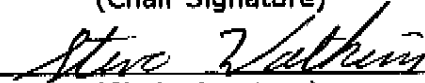
The course is designed as a graduate level course to provide students the essential theoretical and technical background on microseismic (MS) monitoring and acoustic emission (AE) based non-destructive testing. The course topics include wave propagation, instrumentation, sensor array geometry, monitoring design, signal processing, source location methods, data analysis, and case studies.

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.

- 1) 2) 3)
- 4) 5) 6)

Department Chair: 
(Chair Signature)

Date: 03/16/12

Discipline Specific Curricula Committee: 
(Chair signature)

Date: 5/9/12

Curricula Committee: _____
(Chair Signature)

Date: _____

**Acoustic emission/microseismicity (3 credit hours)
Fall 2012**

Instructor: Mao Chen Ge 324 McNutt Tel: 341 6029 Email: gem@mst.edu

Objective: Provide students the essential theoretical and technical background for microseismic monitoring and acoustic emission (AE) based non-destructive testing.

Topics:

- Theory on wave propagation
- Instrumentation (data acquisition and sensors)
- Monitoring design and sensor array geometry
- Signal processing
- Theory and method on source location
- Data analysis and optimization method
- Case studies

Application areas:

- Mining (rockburst, mine stability, mine rescue)
- Oil & Gas (Hydrofracturing, pipeline)
- CO₂ sequestration
- Geotechnical applications (slope, dam, tunnel, large underground chamber)
- Civil (structure integrity, aging infrastructure, pressure vessel, transportation)
- Mechanical and aerospace engineering
- Material science (material strength, fracture mechanics)

Students:

- Mining
- Petroleum engineering
- Geology and geophysics
- Civil
- Mechanical and aerospace engineering
- Material science

Effective Year: 2012
Effective Term: Summer Fall Spring

EC File # 2413-FS2012-Geop-401

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved SP2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: Geological Sciences & Eng

Discipline and Course Number: Geop 401

Course Title: Advanced Seismic Stratigraphy

Abbreviated Title (24 spaces or less): Adv. Seis. Strat.

Instructor(s): Dr. Kelly Liu

Credit Hours: Lecture: 3 Lab: Total:

Prerequisites: Geop 270 or Geop 377 or Geop 385

Semester(s) previously taught: 0

Brief Course Description: (40 words or less)

~~An advanced study of the seismic expression of depositional models.~~ Seismic facies, reflection patterns, and reflection amplitude, and attribute anomalies are interpreted to determine depositional environment, bed thickness, fluid content, lithology, and hydrocarbon reservoir characterization. Students will conduct research projects and cannot earn credit for both this course and Geop 380.

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.

- | | | |
|----|----|----|
| 1) | 2) | 3) |
| 4) | 5) | 6) |

Department Chair: Ralph Jhon
(Chair Signature)

Date: 4-3-12

Discipline Specific Curricula Committee: App. by e-mail
(Chair signature)

Date: _____

Curricula Committee: _____
(Chair Signature)

Date: _____