



## MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

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*Formerly University of Missouri-Rolla*

Agenda  
Campus Curricula Committee Meeting  
April 4, 2012  
12 p.m. Room 117 Fulton Hall

Approval of the February 29, 2012 minutes.

**Review of submitted DC forms:**

DC 0415, English, Creative Writing Minor, effective Fall 2012

**Review of submitted CC forms:**

CC 8221, Electrical Engineering 225, Electronic and Photonic Devices, effective Fall 2012.

CC 8225, Biological Sciences 351, Environmental Microbiology, effective Fall 2012.

CC 8226, IDE 50, Engineering Mechanics – Statics, effective Fall 2012.

CC 8227, IDE 110, Mechanics of Materials, effective Fall 2012.

CC 8228, IDE 120, Materials Testing, effective Fall 2012.

CC 8229, English 205, Fiction Writing, effective Fall 2012.

CC 8230, English 207, Creative Nonfiction Writing, effective Fall 2012.

CC 8231, Technical Communication 440, Advanced Layout and Design, effective Fall 2012.

CC 8232, Technical Communication 311, International Dimensions of Technical Communication, effective Fall 2012.

CC 8233, Math 303, Mathematical Modeling, effective Fall 2012.

CC 8234, Mining Engineering 302, Computer Applications in the Mining & Minerals Industry, effective Fall 2012.

CC 8235, Chemistry 1, General Chemistry, effective Fall 2012.



## MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

*Formerly University of Missouri-Rolla*

CC 8236, Chemistry 202, Cooperative Work Training, effective Fall 2012.

CC 8237, Chemistry 410, Seminar, effective Fall 2012.

CC 8238, Chemistry 433, Nanomaterials – Synthesis, Properties & Applications, effective Fall 2012.

CC 8239, Chemistry 458, Principles and Applications of Mass Spectrometry, effective Fall 2012.

**Review of submitted EC forms:**

EC 2404, Architectural Engineering 301, Civil Engineering 301, Structural Masonry, effective Fall 2012.

EC 2405, Explosives Engineering 301, Display Fireworks Manufacturing, effective Fall 2012.

EC 2406, Biological Sciences 201, Molecular Biology of Sleep and Motivated Behaviors, effective Spring 2013.

EC 2407, Philosophy 101, Philosophy and Film, effective Summer 2012.

**Tabled Items:**

DC 0414, Biological Sciences, Bachelor of Arts, effective Fall 2012. A proposal to change the current requirements for the B.A. in Biology Secondary Education Emphasis area. **Tabled.**

CC 8185, Geology 344, Remote Sensing Technology, effective Fall 2012. **Tabled**

Effective Year: 2012

Effective Term: Summer ☐ Fall ☒ Spring ☐  
(Creating or modifying a degree program must be effective for a Fall term)

DC # 0415-2012-Engl-000-00

## Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:

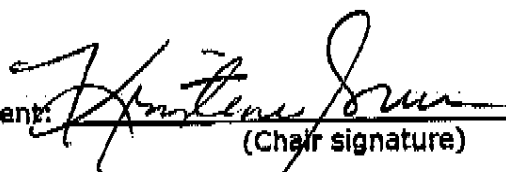
Creative Writing Minor

Department: English and Tech Com

Briefly describe action requested (Attach documentation as appropriate):

The minor requires 12 hours including English 70, Creative Writing. Students are required to take an advanced writing workshop, either English 205 Fiction Writing or English 207 Creative Nonfiction Writing. In consultation with the minor advisor, students will select two additional courses, one of which must be at the 300-level, that emphasize literary craft. These electives can include but are not limited to: English 205, 207, 245, 362, 372, 376, 380, 382.

Recommended by Department:



(Chair signature)

Date: 4/21/12

Recommended by:



Discipline Specific Curricula Committee

(Chair signature)

Date: 2/16/2012

Approved by Curricula Committee:

(Chair signature)

Date:

Approved by Faculty Senate:

(Chair signature)

Date:

Effective Year: FS2012

Effective Term: Summer ☐ Fall ☒ Spring ☐

CC File # 8221-2012-EE-225-32

## Course Change Form (CC)

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☒Course Title ☐Catalog Description ☒Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" Items blank if no change is being made.)

1. Department: Electrical &amp; Computer Engineering

2. Discipline and Course Number: Present : EE 225

Proposed:

3. Course Title: Present: Electronic and Photonic Devices

Proposed:

**Abbreviated Course Title:**

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (40 Words or Less)

**Present:** Application of semiconductor materials for electronic and photonic applications. Topics include crystal physics, electron and photon behavior, pn junctions, heterojunctions, junction diodes, optoelectronic devices, and ohmic and rectifying contacts.

**Proposed:** Semiconductor materials and devices for electronic and photonic applications. Topics include crystal physics, electron and photon behavior, pn junctions, heterojunctions, junction diodes, optoelectronic devices, and ohmic and rectifying contacts.

5. If course requires field trip check box: ☐

6. Credit Hours:	<b>Present:</b>	<b>Lecture:</b> 3	<b>Lab:</b>	<b>Total:</b> 3
	<b>Proposed:</b>	<b>Lecture:</b>	<b>Lab:</b>	<b>Total:</b>

7. Prerequisites:

**Present:** Physics 24, Math 22, and preceded or accompanied by EI Eng 271**Proposed:** EI Eng 121 and Elec Eng 153 each with grade of "C" or better; passing the Elec Eng Advancement Exams II and III.8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: Modification to Undergraduate EE Requirements per ECE Faculty 1/26/2012.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) \_\_\_\_\_ 2) \_\_\_\_\_ 3) \_\_\_\_\_

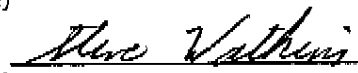
4) \_\_\_\_\_ 5) \_\_\_\_\_ 6) \_\_\_\_\_

Recommended by Department

  
 (Chair signature)

Date: 27 Jan 2012

Recommended by Discipline Specific Curricula Committee

  
 (Chair signature)

Date: 3/6/12

Approved by Curricula Committee:

(Chair signature)

Date: \_\_\_\_\_

Approved by Faculty Senate:

(Chair signature)

Date: \_\_\_\_\_

CC File # **8225-2012-BioSci-351-10**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☒Course Deletion ☐Credit Hours ☒Prerequisites ☒Course Title ☒Catalog Description ☒Course Number ☒Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: BioSci

2. Discipline and Course Number: Present: BioSci 301

Proposed: BioSci 351

3. Course Title: Present: Environmental Microbiology

Proposed: Introduction to Environmental Microbiology

Abbreviated Course Title: Intro Env Micro

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: Topics to be explored include but are not limited to microbial growth and metabolic kinetics, life in extreme environments, biogeochemical cycling, bioremediation, control of water-borne pathogens.

Proposed: Environmental Microbiology is an interdisciplinary study of how microorganisms can impact humans and applied to solve problems such as water treatment and environmental cleanup of contaminants. This course differs from Bio Sci 451 as no NSF-style report or presentation is required.

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture: 3 Lab: 0 Total: 3  
Proposed: Lecture: 3 Lab: 0 Total: 3

7. Prerequisites:

Present: BioSci 221

Proposed: BioSci 221

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: This course will provide an additional upper level course for our undergraduate students as well as a course that appeals to students in environmental engineering and geological sciences.

10. Semesters previously offered as an experimental course (101, 201, 301, 401): FA 00, FA 06, FA 08

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5) 6)

Recommended by Department



Date: 1/31/12

Recommended by Discipline Specific Curricula Committee

(Chair signature)



Date: 2/24/2012

Approved by Curricula Committee:

(Chair signature)

Date: \_\_\_\_\_

Approved by Faculty Senate:

(Chair signature)

Date: \_\_\_\_\_

(Revised 1/29/09)

CC File # **8226-2012-CE-50-10**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☒Catalog Description ☐Course Number ☒Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Civil Engineering

2. Discipline and Course Number: Present : IDE 50 Proposed: CE 50

3. Course Title: Present: Engineering Mechanics - Statics

Proposed: Statics

Abbreviated Course Title: Statics

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: Application of the principles of mechanics to engineering problems of equilibrium. Topics include resultants, equilibrium, friction, trusses, center of gravity and moment of inertia.

Proposed:

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture: 3 Lab: 0 Total: 3  
Proposed: Lecture: Lab: Total:

7. Prerequisites:

Present: Physics 23 or 21, preceded or accompanied by Math 22.

Proposed:

8. Required for Majors: ☐ Elective for Majors: ☐

9. Justification: The Interdisciplinary Engineering Department no longer exists. This former IDE course now resides in the Civil, Architectural, and Environmental Engineering Department, and the course change reflects this situation.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, Initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5)

Recommended by Department

(Chair signature)

Date: 1/30/12

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Date: 3/6/12

Approved by Curricula Committee:

(Chair signature)

Date: \_\_\_\_\_

Approved by Faculty Senate:

(Chair signature)

Date: \_\_\_\_\_

(Revised 1/29/09)

**Huffman, Angie L.**

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**From:** Schonberg, William  
**Sent:** Tuesday, February 07, 2012 8:52 AM  
**To:** Al-Dahhan, Muthanna H.; Erickson, Kelvin Todd; Enke, David L.; Drallmeier, James A.; Flori Jr, Ralph E.; Huebner, Wayne; Frimpong, Samuel  
**Cc:** Luna, Ronaldo; Huffman, Angie L.  
**Subject:** Notification of Intended Course Label Change

Gentlemen:

As I understand things, the campus curriculum committee has a (relatively) new rule in place that if a department or program is seeking a change, however trivial, in a course that it administers but is also required in programs that reside in other departments, then the home department of that course is supposed to notify those other departments of that intended change.

Please consider this email as notification that we intend to drop the 'IDE' prefix from IDE 50, 110, and 120 and replace it with 'CE'.

Again, as I understand things, no action is required from your end at this time, and furthermore, if this change is approved, no action (or forms) will be required from you later – this changes will percolate their way through the system and all program and degree requirements will be automatically updated for all affected programs. Angie, please correct me if my understanding (or faith in our computer systems!) is misplaced.

Thanks everyone,

WPSchonberg  
Prof & Chair  
CArE Engng Dept  
Missouri S&T

CC File # **8227-2012-CE-110-10**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐

## Course Change Form (CC)

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☒Course Title ☐Catalog Description ☒Course Number ☒Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Civil Engineering

2. Discipline and Course Number: Present : IDE 110

Proposed: CE 110

3. Course Title: Present: Mechanics of Materials

Proposed:

Abbreviated Course Title:

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: Application of the principles of mechanics to engineering problems of strength and stiffness. Topics include stress, strain, thin cylinders, torsion, beams, columns, and combined stresses at a point.

Proposed: Application of the principles of mechanics to engineering problems of strength and stiffness. Topics include stress, strain, thin cylinders, torsion, beams, and combined stresses at a point.

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture: 3 Lab: 0 Total: 3  
Proposed: Lecture: Lab: Total:

7. Prerequisites:

Present: IDE 050 with grade of "C" or better and Math 22.

Proposed: CE 050 with grade of "C" or better.

8. Required for Majors: ☐ Elective for Majors: ☐

9. Justification: The Interdisciplinary Engineering Department no longer exists. This former IDE course now resides in the Civil, Architectural, and Environmental Engineering Department, and the course change reflects this situation.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5) 6)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date: 1/30/12

Date: 3/6/12

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(Revised 1/29/09)



Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐

CC File # 8228-2012-CE-120-10

**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☐Catalog Description ☐Course Number ☒Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Civil Engineering

2. Discipline and Course Number: Present : IDE 120

Proposed: CE 120

3. Course Title: Present: Materials Testing

Proposed:

Abbreviated Course Title:

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: Designed to assist in the teaching of mechanics of materials. Topics include strain measurement, testing machines and properties of materials.

Proposed:

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture: 0 Lab: 1 Total: 1  
Proposed: Lecture: Lab: Total:

7. Prerequisites:

Present: Preceded or accompanied by IDE 110.

Proposed: Preceded or accompanied by CE 110.

8. Required for Majors: ☐ Elective for Majors: ☐

9. Justification: The Interdisciplinary Engineering Department no longer exists. This former IDE course now resides in the Civil, Architectural, and Environmental Engineering Department, and the course change reflects this situation.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, If signature does not appear below.

1) 2) 3)

4) 5) 6)

Recommended by Department                     

(Chair signature)

Date: 1/30/12Recommended by Discipline Specific Curricula Committee                     

(Chair signature)

Date: 3/6/12Approved by Curricula Committee:                     

(Chair signature)

Date:                     Approved by Faculty Senate:                     

(Chair signature)

Date:                     

(Revised 1/29/09)

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐

CC File # 8229-2012-Engl-205

**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐  
 Course Title ☐ Catalog Description ☐ Course Number ☒ Co-listing ☐

**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: English and Tech Com

2. Discipline and Course Number: Present: ~~301~~

Proposed: 205

3. Course Title: Present: Fiction Writing

Proposed: Fiction Writing

Abbreviated Course Title: Fiction Writing

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

## 4. Catalog Description (300 Character Spaces or Less.)

Present: This course introduces students to concepts of craft in fiction writing and the critical tools writers bring to revision. Students will write and present their own fully-developed stories and examine the stories of others in a workshop format.

Proposed: This course introduces students to concepts of craft in fiction writing and the critical tools writers bring to revision. Students will write and present their own fully-developed stories and examine the stories of others in a workshop format.

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture: 3 Lab: 0 Total: 3  
 Proposed: Lecture: 3 Lab: 0 Total: 3

## 7. Prerequisites:

Present: English 20 or equivalent

Proposed: English 20 or equivalent

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: This is a course that will be integral to our new minor in Creative Writing (see enclosed DC form). It has been offered once, successfully, in SP11 as English 201: Fiction Writing, and it will become a regular part of our rotation.

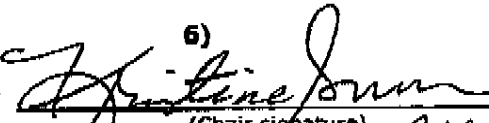
## 10. Semesters previously offered as an experimental course (101, 201, 301, 401):

## 11. List all co-listed courses, Initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5) 6)

Recommended by Department



(Chair signature)

Date: 1/31/12

Recommended by Discipline Specific Curricula Committee



(Chair signature)

Date: 2/16/12

Approved by Curricula Committee:

(Chair signature)

Date: \_\_\_\_\_

Approved by Faculty Senate:

(Chair signature)

Date: \_\_\_\_\_

(Revised 1/29/09)

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐CC File # *8230-2012-Eng-207-10***Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐  
 Course Title ☐ Catalog Description ☐ Course Number ☒ Co-listing ☐

**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: English and Tech Com

2. Discipline and Course Number: Present: ~~201~~*English*  
Proposed: 2073. Course Title: Present: Creative Nonfiction Writing  
Proposed: Creative Nonfiction Writing

Abbreviated Course Title: Creative Nonfiction

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

## 4. Catalog Description (300 Character Spaces or Less.)

Present: Students will write creative nonfiction essays about their experiences and the experiences of others. The course will emphasize the revision process, focusing on both sentence-level and global issues. Additionally, this course will introduce students to published writers' rhetorical choices.

Proposed: Students will write creative nonfiction essays about their experiences and the experiences of others. The course will emphasize the revision process, focusing on both sentence-level and global issues. Additionally, this course will introduce students to published writers' rhetorical choices.

5. If course requires field trip check box: ☐

6. Credit Hours:	Present:	Lecture: 3	Lab: 0	Total: 3
	Proposed:	Lecture: 3	Lab: 0	Total: 3

## 7. Prerequisites:

Present: English 20 or equivalent

Proposed: English 20 or equivalent

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: This is a course that will be integral to our new minor in Creative Writing (see enclosed DC form). It will be offered in SP12 as English 201: Creative Nonfiction Writing, and it will become a regular part of our rotation.

## 10. Semesters previously offered as an experimental course (101, 201, 301, 401):

## 11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5) 6)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date: *1/31/12*Date: *2/16/12*

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(Revised 1/29/09)

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐

CC File # 8231-2012-TCom-440

**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☒Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☐Catalog Description ☐Course Number ☒Co-listing ☒**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: English and Tech Com

2. Discipline and Course Number: Present:

3. Course Title: Present:

Proposed: Advanced Layout and Design

**Abbreviated Course Title:**

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present:

Proposed: TCH COM 440 Advanced theory and practice of layout and design for print and electronic media. Students who have taken TCH COM 240 may not take this course for credit.

~~Prerequisite: Graduate standing.~~

5. If course requires field trip check box: ☐

6. Credit Hours:

Present:

Lecture:

Lab:

Total:

Proposed:

Lecture: 3

Lab:

Total:

7. Prerequisites:

Present:

Proposed: Graduate Standing

8. Required for Majors: ☐Elective for Majors: ☐

9. Justification: Layout and Design is currently being taught as TCH COM 240. TCH COM 440 would be taught concurrently, but would accommodate graduate students, especially MS Tech Com majors who have no background in layout and design. Graduate students would do additional work and be held to higher standards for assessment. See CC 7701 2009 ✓  
for an example of this type of concurrent offering.

10. Semesters

previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, Initialed by Dept. Chair, if signature does not appear below.

1) TCHCOM 240

2)

3)

4)

5)

6)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date:

2/14/12

Date:

2/16/12

Date:

Date:

(Revised 1/29/09)

CC File # 8232-2012-7Com-311-

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☒Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☐Catalog Description ☐Course Number ☒Co-listing ☒**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: English and Tech Com

2. Discipline and Course Number: Present:

Proposed: 311

3. Course Title: Present:

Proposed: International Dimensions of Technical Communication

**Abbreviated Course Title:**

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present:

Proposed: TCH COM 311 Examines complexity of communication of technical information worldwide. Includes topics such as graphics, icons, symbols; user interface design; intercultural communication. Prerequisite: TCH COM 65 or ENGL 65, or equivalent.

5. If course requires field trip check box: ☐

6. Credit Hours:

Present:

Lecture:

Lab:

Total:

Proposed:

Lecture: 3

Lab:

Total:

7. Prerequisites:

Present:

Proposed:

8. Required for Majors: ☐Elective for Majors: ☐

9. Justification: International Technical Communication is currently being taught as TCH COM 411. TCH COM 311 would be taught concurrently, but would accommodate undergraduate enrollment, especially BS Tech Com majors. Graduate students in 411 would do additional work and be held to higher standards for assessment. See CC 7701 2009 for an example of this type of concurrent offering. ✓

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) TCHCOM 411

2)

3)

4)

5)

6)

Recommended by Department:

(Chair signature)

Recommended by Discipline Specific Curricula Committee:

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date: 2/14/12

Date: 2/16/12

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(Revised 1/29/09)

CC File # **8233-2012-Math-303-33**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐  
 Course Title ☒ Catalog Description ☒ Course Number ☐ Co-listing ☐

**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Mathematics and Statistics

2. Discipline and Course Number: Present: MATH 303

Proposed: MATH 303

 3. Course Title: Present: Mathematical Modeling  
 Proposed: Methods of Applied Mathematics

Abbreviated Course Title: Methods Appl Math

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: Model construction and the modeling process, model fitting, models requiring optimization, empirical model construction, modeling dynamic behavior. Individual and team projects.

Proposed: Methods to develop and analyze mathematical models. Topics include dimensional analysis and scaling, perturbation methods, and the construction of ordinary and partial differential equation models.

5. If course requires field trip check box: ☐
 6. Credit Hours: Present: Lecture: 3 Lab: 0 Total: 3  
 Proposed: Lecture: 3 Lab: 0 Total: 3

7. Prerequisites:

Present: Math 204 or 229 with a grade of "C" or better, programming competency

Proposed: Math 204 or 229 with a grade of "C" or better, programming competency

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: The two faculty members who have taught the course the last four times feel that the course will be improved by covering methods for the analysis of mathematics models in addition to covering model development.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

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

Recommended by Department

*Dean M. Hill*

(Chair signature)

Date: 2/13/2012

Recommended by Discipline Specific Curricula Committee

(Chair signature)

*Daniel J. Lick*Date: 2/24/2012

Approved by Curricula Committee:

(Chair signature)

Date: \_\_\_\_\_

Approved by Faculty Senate:

(Chair signature)

Date: \_\_\_\_\_

(Revised 1/29/09)

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐

CC File # 8234-2012-Min Eng-302-33

**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☒Catalog Description ☒Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Mining Engineering

2. Discipline and Course Number: Present : Mi Eng 302 Proposed: Mi Eng 302

3. Course Title: Present: Computer Applications in the Mining & Minerals Industry  
Proposed: Computer-Aided Mine Design

Abbreviated Course Title: Comp-Aided Mine Design

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: History of computer technology usage in the mining industry. Exposure to the use of computers in mine planning, design, exploration, ventilation &amp; environment, rock mechanics, open pit stability, simulation of mining systems and equipment selection.

Proposed: Project-based mine planning and design course. Engineering design process applied to computer-aided mine planning and design. Mine layouts, production planning, and materials scheduling optimization.

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture: 2 Lab: 1 Total: 3  
Proposed: Lecture: 2 Lab: 1 Total: 37. Prerequisites:  
Present:

Proposed: Mi Eng 225 or graduate standing

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: Since the introduction of Mi Eng 225 and 235, the emphasis of this course has shifted to align with current needs in the department. The existing description does not fit current offerings. This adjustment aligns this course with needs and avoids overlaps with existing courses.

10. Semesters previously offered as an experimental course (101, 201, 301, 401): N/A

11. List all co-listed courses, Initialed by Dept. Chair, if signature does not appear below.

1)

2)

3)

4)

5)

6)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date:

02/07/12

Date:

3/6/12

Date:

Date:

CC File # **8235-2012-Chem-1-31**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☒Prerequisites ☐Course Title ☐Catalog Description ☒Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Chemistry

2. Discipline and Course Number: Present: Chem 1

Proposed:

3. Course Title: Present: General Chemistry

Proposed:

**Abbreviated Course Title:**

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: A comprehensive study of the general principles of chemistry with emphasis on the fundamental laws and their application in practical computations. The class is divided into smaller sections one day a week for recitation and discussion of problems.

Proposed: A comprehensive study of the general principles of chemistry with emphasis on the fundamental laws and their application in practical computations.

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture: LEC 3.0 Lab: RSD 1.0 Total: 4.0  
Proposed: Lecture: LEC 2.0 Lab: RSD 2.0 Total: 4.0

7. Prerequisites:

Present: Entrance requirements

Proposed:

8. Required for Majors: ☒ Elective for Majors: ☐

9. Justification: The course structure has been changed due to a state-wide teaching redesign initiative to transform large-enrollment multi-section courses into a technology-supported active learning environment. The course will now consist of two lectures per week and either a weekly 110 minute collaborative learning recitation section or an independent online asynchronous recitation section.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5)

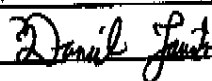
Recommended by Department



(Chair signature)

Date: 2-9-2012

Recommended by Discipline Specific Curricula Committee



(Chair signature)

Date: 2/29/2012

Approved by Curricula Committee:

(Chair signature)

Date: \_\_\_\_\_

Approved by Faculty Senate:

(Chair signature)

Date: \_\_\_\_\_

(Revised 1/29/09)



CC File # **8236-2012-Chem-202-10**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☒Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☐Catalog Description ☐Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Chemistry

2. Discipline and Course Number: Present:

Proposed: Chem 202

3. Course Title: Present:

Proposed: Cooperative Work Training

Abbreviated Course Title: Cooperative Work Trng

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present:

Proposed: On-the-job experience gained through cooperative education with industry, with credit arranged through departmental advisor. Grade received depends on quality of reports submitted and work supervisor's evaluation.

5. If course requires field trip check box: ☐

6. Credit Hours:	Present:	Lecture:	Lab:	Total:
	Proposed:	Lecture: IND	Lab:	Total: 1.0-3.0

7. Prerequisites:  
Present:

Proposed:

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: To provide college credit for co-operative work experience.

10. Semesters previously offered as an experimental course (101, 201, 301, 401): Not required.

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5) 6)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date: 2-9-2012Date: 2/29/2012

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(Revised 1/29/09)

CC File # 8237-2012-Chem-410-31

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☒Prerequisites ☐Course Title ☐Catalog Description ☐Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Chemistry

2. Discipline and Course Number: Present: Chem 410

Proposed:

3. Course Title: Present: Seminar  
Proposed:

Abbreviated Course Title:

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: Discussion of current topics.

Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours:

Present:

Lecture: RSD

Lab:

Total: 0.0-6.0

Proposed:

Lecture: RSD 1.0 Lab:

Total: RSD 1.0

7. Prerequisites:  
Present:

Proposed:

8. Required for Majors: ☒ Elective for Majors: ☐

9. Justification: Class meets one hour per week. Students are required (and only allowed) to enroll in 1.0 credit hours. Those who mistakenly enroll in other amounts must then process credit hour change forms. This change will eliminate confusion and enrollment errors.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5) 6)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date: 2-9-2012

Date: 2/29/2012

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(Revised 1/29/09)

CC File # **8238-2012-Chem-433-16**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☒Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☐Catalog Description ☐Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Chemistry

2. Discipline and Course Number: Present:

Proposed: Chem 433

3. Course Title: Present:

Proposed: Nanomaterials - Synthesis, Properties &amp; Applications

Abbreviated Course Title: Basics of Nanomaterials

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present:

Proposed: Chemistry of nanomaterials. Understanding the fundamentals of nanoscience & technology. Studying the different synthesis strategies for nanomaterials & their characterization. Understanding the properties of nanomaterials & their possible applications. Introducing the concept for device fabrication.

5. If course requires field trip check box: ☐

6. Credit Hours:

Present:

Lecture:

Lab:

Total:

Proposed:

Lecture: 3.0

Lab:

Total: 3.0

7. Prerequisites:

Present:

Proposed: Chem 331 ~~as consent of instructor~~8. Required for Majors: ☐Elective for Majors: ☒

9. Justification: The course has been offered twice as an experimental course with enrollments of 10 and 5. The chemistry of nanomaterials is a topic of interest to not only chemistry majors, but also materials science and chemical, ceramic, and nuclear engineering majors.

10. Semesters previously offered as an experimental course (101, 201, 301, 401): FS2010, FS2011

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1)

2)

3)

4)

5)

6)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date: 2-9-2012Date: 2/29/2012

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(Revised 1/29/05)

CC File # **8239-2012-Chem-458-32**

Effective Year: 2012

Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☒Course Title ☐Catalog Description ☐Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Chemistry

2. Discipline and Course Number: Present: Chem 458 Proposed:

3. Course Title: Present: Principles and Applications of Mass Spectrometry  
Proposed:**Abbreviated Course Title:**

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present: The course covers fundamental physical principles of mass spectrometry, instrumentation, interpretation of spectra, and applications in environmental, polymer, biomedical, and forensic fields.

Proposed:

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture: 3.0 Lab: Total: 3.0  
Proposed: Lecture: Lab: Total:

7. Prerequisites:

Present: Chem 251 or equivalent.

Proposed: Chem 355 or equivalent.

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: Chem 355 is a more appropriate prerequisite because it covers more of the fundamentals necessary for this course than does Chem 251, which is an undergraduate course. This also makes the prerequisites consistent with the other analytical courses Chem 453 and Chem 455.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 2) 3)

4) 5)

Recommended by Department

(Chair signature)

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Approved by Curricula Committee:

(Chair signature)

Approved by Faculty Senate:

(Chair signature)

Date:

Date:

Date:

Date:

(Revised 1/29/09)

Effective Year: 2012

Effective Term: Summer ☐ Fall ☒ Spring ☐EC File # 2404-FS2012-ArchE-301

## 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: Civil, Arch., and Envir. Engr.

Discipline and Course Number: ArchE 301

Course Title: ~~ArchE~~ Structural masonry

Abbreviated Title (24 spaces or less): Struct Masonry Design

Instructor(s): Darrell McMillian

Credit Hours:      Lecture: 3      Lab: 0      Total: 3

Prerequisites: ArchE 217 or CE 217

Semester(s) previously taught: Second Offering

Brief Course Description: (40 words or less)

Review of the theory and practice of analyzing low-rise masonry structures. Materials and assembly types, constructability considerations, structural masonry components, repair and strengthening, and model code requirements to ensure adequate load resisting buildings.

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

1) CE 301      2)      3)

4)      5)      6)

Department Chair: \_\_\_\_\_

(Chair Signature)

Date: 1/30/12

Discipline Specific Curricula Committee: \_\_\_\_\_

(Chair signature)

Date: 3/6/12

Curricula Committee: \_\_\_\_\_

(Chair Signature)

Date: \_\_\_\_\_



**MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY**  
Department of Civil, Architectural, and Environmental Engineering



**ArchE / CE 301 – Structural Masonry Design – Fall 2011**

**CO-INSTRUCTOR**

Darrell W. McMillian, P.E.  
Technical Director  
Masonry Institute of St. Louis  
1429 South Big Bend Blvd.  
St. Louis, MO 63117  
Office Phone: 314-645-5888  
Office Fax: 314-645-5898  
Email: mcmilliand@mst.edu  
misldarrell@masonrystl.org

**CO-INSTRUCTOR & COORDINATOR**

Dr. John J. Myers, P.E.  
Associate Professor  
325 Butler-Carlton CE Hall  
1401 North Pine Street  
Rolla, MO 65409  
Office Phone: 573-341-6618  
Office Fax: 573-341-4729  
Email: jmyers@mst.edu

**CLASS MEETING:** MWF 3:00 to 3:50 pm

**ROOM:** TMH 260

**ADDITIONAL MEETING TIME:** As Required – Arranged by Instructors

**OFFICE HOURS:** McMillian- By Appointment

Myers- WF 8:00 am to 9:30 am, or By Appointment, 325 Butler Carlton Hall

**COURSE DESCRIPTION**

Review of the theory and practice of analyzing low-rise masonry structures. Materials and assembly types, constructability considerations, structural masonry components, repair and strengthening, and model code requirements to ensure adequate load resisting buildings. Prerequisites: ArchE 217 or Cv Eng 217 with a grade "C" or better.

**OBJECTIVES**

1. Describe the relationship between the model building code and the masonry material code.
2. Identify current masonry materials and assemblies used in building construction.
3. Discuss the importance of movement joints, hot and cold weather procedures, quality assurance procedures in masonry construction.
4. Design structural masonry wall components and connections using Allowable Stress Design (ASD) and Strength Design (SD) methods.
5. Apply seismic and wind based shears to low-rise buildings and distribute their effects to masonry wall components and connections.
6. Review currently available structural masonry design software and simplified masonry building design procedures.
7. Discuss using composite materials for repairing and strengthening existing masonry buildings using the ACI 440 approach.

**TEXTBOOKS AND REFERENCE MATERIALS**

**Textbooks:**

1. *Required:* Design of Reinforced Masonry Structures, 2009 Edition, Concrete Masonry Association of California and Nevada, ISBN: N/A (Will be available for purchase at the first class session.)
2. *Required:* TMS 402 / 602 – 08, Building Code Requirements and Specification for Masonry Structures, The Masonry Society, ISBN: 1-929081-29-4. (Will be available for purchase at the first class session.)
3. *Required:* Various National Concrete Masonry Association e-Technical Notes. Free download available at [www.ncma.org](http://www.ncma.org). (Further directions to be given during class time.)

4. Required: ACI 440.7R-10 Guide for the Design and Construction of Externally Bonded Fiber Reinforced Polymer Systems for Strengthening Unreinforced Masonry Structures, American Concrete Institute, 2010, 30 pp. (Further directions to be given during class time.)

#### **References:**

1. ASTM Masonry Standards for the Building Industry, Sixth Edition, ASTM International. ISBN13: 978-0-8031-8004-8
2. 2009 International Building Code, International Code Council. ISBN13: 978-1-58001-725-1.
3. ASCE 7-05, Minimum Design Loads for Buildings and Other Structures, American Society of Civil Engineers. ISBN: 0-7844-0809-2.

#### **COURSE OUTLINE**

##### ***Lectures:***

The lectures will introduce masonry materials and assemblies, structural masonry wall component design, and low-rise masonry building analysis per the 2009 International Building Code and the 2008 TMS 402/602 masonry code/specification. The emphasis of this course is placed on covering topics contained in the attached course outline. Lectures will be achieved by Distance & Continuing Education (<http://dce.mst.edu/>). Handouts will be posted on Blackboard weekly.

##### ***Additional Class Meeting:***

Additional meeting time will be assigned as designated by the instructors for the midterm exam and for term project discussions/presentations, as required.

##### ***Class Attendance:***

Class attendance is required and will be monitored by the instructors. If an emergency arises in which you cannot attend class, please notify the instructors ahead of time, by email or phone, such that arrangements can be made for any missed handouts or homework assignments.

##### ***Homework:***

Homework will be assigned throughout the semester and collected as designated by the instructors. Homework must be neat and organized. Use of a straight edge in preparation of homework assignments is required for any plots or graphs required in the assignments. Use of engineering paper is also highly recommended. (The grader will deduct points from homework assignments that are not neat and organized.) Homework assignments will be due as announced by the assigning instructor. Late homework will be accepted with a 20% penalty for each class meeting past due unless a late submission is approved by the assigning instructor in advance. HW's will be collected in class from the on campus students. Distant education students may (1) email electronic PDF's or similar of their HW's, or (2) fax HW's to the attention of the assigning instructor using the fax numbers listed on Page 1, or (3) upload an electronic version of their HW's to blackboard. In the case of uploading assignments to Blackboard, please notify the assigning instructor by email that you have uploaded the assignment immediately after doing so.

##### ***Design Project:***

A design project will be assigned during the semester which will be completed by each student. Meetings with the instructor may be scheduled to evaluate the student's on-going design and provide assistance. Different portions, or tasks, of the project may be collected throughout the duration of the assignment. Final submission of the design project will be due the final week of class on a date specified by the instructor when the project description is distributed in class.

##### ***Examinations:***

Three quizzes will be given during regularly scheduled class periods along with one take-home quiz. A comprehensive final exam will be given during the scheduled final exam period for this course. Missed exams will count as zero. Exams cannot be made up except under very unusual circumstances must be approved prior to the scheduled exam date by the instructors.

**Grading System:**

Grades will be based on the performance of exams, assigned homework, and term project, as follows:

Homework Assignments*	15%
Design Project	20%
Quizzes	40%
Final Exam	25%

\* Includes in-class exercises that are collected.

Grading Scale:	A:	≥ 90%
	B:	80 to 89%
	C:	70 to 79%
	D:	60 to 69%
	F:	< 60

Note: Cutoffs may be slightly lower, but will not be higher.

**Disability Support Services:**

If you have a documented disability and anticipate needing accommodations in this course, you are strongly encouraged to meet with the instructors early in the semester. You will need to request that the Disability Services staff send a letter to the instructors verifying your disability and specifying the accommodation you will need so arrangements can be made. Students may be referred to Disability Support Services (<http://dss.mst.edu/>), so that appropriate and reasonable accommodative services can be determined and recommended. Disability Support Services is located in 204 Norwood Hall. Their phone number is 573-341-4211 and their email is [dss@mst.edu](mailto:dss@mst.edu). Counseling services may be found at <http://counsel.mst.edu/>.

**Academic Dishonesty:**

You are expected to do your own work on exams. Giving aid to a student during an exam or taking information from another student's exam constitutes academic dishonesty. Students caught cheating during an exam will receive a failing grade in the course and can be dismissed from The University. For a full description of what constitutes academic dishonesty, please see the University *Judicial Affairs: Community Standards of Student Conduct* at <http://communitystandards.mst.edu/>.

**Classroom Egress Maps:**

Students must familiarize themselves with the classroom egress maps to be used in the event of an emergency. The maps are posted on-line at: <http://registrar.mst.edu/links/egress.html>.

**Other Campus Services:**

The Learning Enhancement Across Disciplines Program (LEAD) sponsors free learning assistance in a wide range of courses for students who wish to increase their understanding, improve their skills, and validate their mastery of concepts and content in order to achieve their full potential. LEAD assistance starts no later than the third week of classes. Check out the online schedule at <http://lead.mst.edu/assist>, using zoom buttons to enlarge the view. Look to see what courses you are taking have collaborative LEAD learning centers (bottom half of schedule) and/or Individualized LEAD tutoring (top half of the schedule). For more information, contact the LEAD office at 573-341-4608 or email [lead@mst.edu](mailto:lead@mst.edu).

**Educational Environment:**

It is very important to the Instructors that each student has a healthy productive learning environment. If any student feels their learning environment is being restricted by another individual, please feel free to discuss this with the Instructors.



***Important Dates:***

Labor Day Holiday: Monday, September 5<sup>th</sup>, 2011  
Last day to change HEARER status: Monday, October 3<sup>rd</sup>, 2011  
Last day to drop without a 'WD' showing on transcript: Monday, October 3<sup>rd</sup>, 2011  
Last day to add course: Monday, October 3<sup>rd</sup>, 2011  
Thanksgiving break: Monday, Nov. 21<sup>st</sup> through Sunday Nov. 27<sup>th</sup>, 2011  
Mid-semester: Saturday, October 15<sup>th</sup>, 2011  
Last day for dropping a course: Friday, November 11<sup>th</sup>, 2011  
Last class day: Friday, December 9<sup>th</sup>, 2011  
Final exam: Wednesday, 8:00 am – 10:00 pm, Dec. 14<sup>th</sup>, 2011 Room: TMH 260

## ArchE / CE 301 - Structural Masonry Design - Topics and Lecture Sequence

DATE	DAY	LECTURE TOPIC	TEXT REF*	ASSIGNMENTS**
Aug.	22	M	Course / Masonry Industry Introduction	Handout
	24	W	Masonry Overview - Materials	Ch. 1, App. C
	26	F	Masonry Overview - Construction	Ch. 2, App. C
	29	M	Allowable Stress Design - <i>Intro</i>	Ch. 4, App. B
	31	W	Allowable Stress Design - <i>Flexure</i>	Ch. 4, App. B
Sep.	02	F	Allowable Stress Design - <i>Flexure</i>	Ch. 4, App. B
	05	M	<b>LABOR DAY</b>	
	07	W	Allowable Stress Design - <i>Flexure &amp; Axial</i>	Ch. 4, App. B
	09	F	Allowable Stress Design - <i>Flexure &amp; Axial</i>	Ch. 4, App. B
	12	M	Allowable Stress Design - <i>Shear</i>	Ch. 4, App. B
	14	W	Allowable Stress Design - <i>Shear</i>	Ch. 4, App. B
	16	F	Allowable Stress Design - <i>Anchor Bolts</i>	Ch. 4, App. B
	19	M	Allowable Stress Design - <i>Development/Splices</i>	Ch. 4, App. B
	21	W	<b>QUIZ 1</b>	
	23	F	Strength Design - <i>Intro</i>	Ch. 5
	26	M	Strength Design - <i>Flexure</i>	Ch. 5
	28	W	Strength Design - <i>Flexure</i>	Ch. 5
	30	F	Strength Design - <i>Flexure &amp; Axial</i>	Ch. 5
Oct.	03	M	Strength Design - <i>Flexure &amp; Axial</i>	Ch. 5
	05	W	Strength Design - <i>Shear</i>	Ch. 5
	07	F	Strength Design - <i>Shear</i>	Ch. 5
	10	M	Strength Design - <i>Anchor Bolts</i>	Ch. 5
	12	W	Strength Design - <i>Development/Splices</i>	Ch. 5
	14	F	<b>QUIZ 2</b>	
	17	M	Structural Loads and Analysis	Ch. 3
	19	W	Structural Loads and Analysis	Ch. 3
	21	F	Structural Loads and Analysis	Ch. 3
	24	M	Structural Loads and Analysis	Ch. 3
	26	W	Structural Loads and Analysis	Ch. 3
	28	F	<b>QUIZ 3</b>	
	31	M	Repair & Strengthening Existing Masonry	ACI 440.7R
Nov.	02	W	Repair & Strengthening Existing Masonry	ACI 440.7R
	04	F	Repair & Strengthening Existing Masonry	ACI 440.7R
	07	M	Repair & Strengthening Existing Masonry	ACI 440.7R
	09	W	Repair & Strengthening Existing Masonry	ACI 440.7R
	11	F	Repair & Strengthening Existing Masonry	ACI 440.7R
	14	M	Masonry Building Design - <i>1 Story Warehouse</i>	App. A & D
	16	W	Masonry Building Design - <i>1 Story Warehouse</i>	App. A & D
	18	F	Masonry Building Design - <i>1 Story Warehouse</i>	App. A & D
	21	M	<b>THANKSGIVING HOLIDAY</b>	
	23	W	<b>THANKSGIVING HOLIDAY</b>	
	25	F	<b>THANKSGIVING HOLIDAY</b>	
	28	M	Masonry Building Design - <i>2 Story Office Bldg</i>	App. A & D
	30	W	Masonry Building Design - <i>2 Story Office Bldg</i>	App. A & D
Dec.	02	F	Masonry Building Design - <i>2 Story Office Bldg</i>	App. A & D
	05	M	Simplified Masonry Design	Handout
	07	W	Simplified Masonry Design	Handout
	09	F	Masonry Software Options / Final Review	Handout
	14	W	<b>FINAL EXAM</b>	

\* Chapter/Appendix listings are for Textbook #1. Textbooks #2 and #3 will be used though out.

\*\*Due dates to be announced. Schedule is estimated. Assignments may also include in-class activities as needed.

Effective Year: 2012

Effective Term: Summer ☐ Fall ☒ Spring ☐

EC File # 2405-FS2012-ExpEng-201

## 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 & Nuclear Engineering

Discipline and Course Number: ExpEng 301

Course Title: Display fireworks manufacturing

Abbreviated Title (24 spaces or less): Fireworks manufacturing

Instructor(s): Stephen Hall

Credit Hours: Lecture: 1 Lab: 2 Total: 3

Prerequisites: Chem 1 and Chem 25 and Econ 121, Econ 122, or Eng Mat 137

Semester(s) previously taught:

Brief Course Description: (40 words or less)

Theory and practice of manufacturing display fireworks. Focusing on safety, chemical interaction, color development, basic theory, state and federal law. The lab will include hands on building of ball and canister shells and other pyrotechnic effects.

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

1)

2)

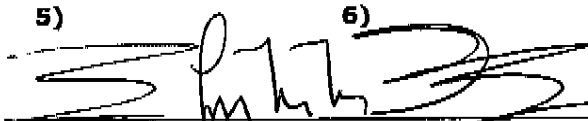
3)

4)

5)

6)

Department Chair:

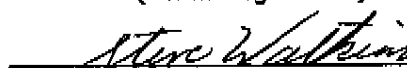


(Chair Signature)

Date:

02/03/12

Discipline Specific Curricula Committee:



(Chair signature)

Date:

3/6/12

Curricula Committee:

\_\_\_\_\_

(Chair Signature)

Date:

\_\_\_\_\_

TO: Campus Curriculum Committee

Stephen Hall is giving a course on the manufacturing of display fireworks in the September-October time frame. We are hoping to grow this class to the premier class on display fireworks manufacturing in the US and revive both the "art" and science.

Stephen Hall is a 1974 UMR graduate with a BS in chemical engineering who has worked in industry for 37 years and has returned to Missouri S&T to pursue his masters in explosives engineering. Steve's passion has been pyrotechnics since an early age and has many years experience as a pyrotechnic display operator and hobbyist manufacturer. He founded the Missouri Pyrotechnic Association in the late 1990's and serves as their safety officer. He has been a Pyrotechnic Guild International member for 20 years and is a PGI display operator trainer.

We have a keen interest from our pyrotechnic students who have repeatedly requested the class for some time now, and it complements our current successful pyrotechnics classes. It is anticipated that the college credit course would be an evening lecture/lab running for about 8 weeks in September and October. I will be working with Mr. Hall on the framework of the course to make sure it meets S&T standards. Mr Hall is knowledgeable in the subject area and is wishing to pass on what he has learned following his life's passion to the students of Missouri S&T.

Our previous submission for FS 2011 was for a Mr. Lloyd, but unfortunately that didn't work out and Mr. Hall is better academically suited to teach the class amongst other things.

The first offering of the class will be through DCE as a CED offering. It is our intent to also develop in the future a DIS (distance or hybrid distance/offsite) offering of this class, but we will have to develop the mechanics of that offering at a later date after we have successfully completed the classes first CED offering.

PW



EC File # 2406-Sp2013-BioSci-201

Effective Year: 2013

Effective Term: Summer ☐ Fall ☐ Spring ☒

## 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: Biological Sciences

Discipline and Course Number: BioSci 201

Course Title: Molecular Biology of Sleep and Motivated Behaviors

Abbreviated Title (24 spaces or less): Sleep and Behavior

Instructor(s): Matthew Thimman

Credit Hours: Lecture: 3 Lab: 0 Total: 3

Prerequisites: BioSci 111

Semester(s) previously taught: 0

**Brief Course Description: (40 words or less)**

Students will learn the genes, proteins, and anatomy that govern sleep regulation. The course will also cover how sleep deprivation changes the body and degrades health and performance. Lessons from sleep will transfer to behaviors such as feeding and mating.

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: [Signature] (Chair Signature)

Date: 2/10/12

Discipline Specific Curricula Committee: [Signature] (Chair signature)

Date: 2/29/2012

Curricula Committee: \_\_\_\_\_ (Chair Signature)

Date: \_\_\_\_\_

(Revised 10/12/2010)

02/10/12

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Effective Year: 2012

Effective Term: Summer ☒ Fall ☐ Spring ☐

EC File # 2407-SS2011-Phil-101

## 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: Philosophy

Phil

Discipline and Course Number: 101

Course Title: Philosophy and Film

Abbreviated Title (24 spaces or less):

Instructor(s): Dr. Joel Dittmer

Credit Hours: Lecture: 3 Lab: Total:

Prerequisites: None

Semester(s) previously taught: None

Brief Course Description: (40 words or less)

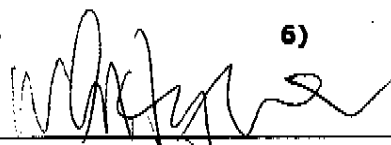
This is an introductory philosophy course where students will be introduced through film to such topics as relativism and truth, personal identity, philosophy of mind and artificial intelligence, ethical theory, political philosophy, and the problem of evil.

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: 2/10/2012

Discipline Specific Curricula Committee:



(Chair signature)

Date: 2/13/2012

Curricula Committee:

(Chair Signature)

Date:

DC # 0414-2012-BioSci-000-00

Effective Year: 2012

Effective Term: Summer ☐ Fall ☒ Spring ☐  
(Creating or modifying a degree program must be effective for a Fall term)**Degree Change Form (DC)**

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

**Title of degree program, emphasis area, or minor:**

B.A. Biology, Secondary Education Emphasis

**Department:** Biological Sciences**Briefly describe action requested (Attach documentation as appropriate):**

Changes are being proposed to the B.A. Biology Secondary Education Emphasis to:

1) make coursework more consistent with state (DESE, MO Dept. of Elementary and Secondary Education) requirements, and

2) reduce the total credit hours from 137 to 131 by bringing the some B.A. Secondary Ed requirements more in line with the straight B.A. requirements.

Attachment A shows the differences between the current and proposed curricula along side the DESE-defined area of "Biology and Other Sciences" and the proposed changes are summarized at the bottom.

Attachment B shows the differences between the straight B.A. Biology and the B.A. Biology Secondary Education Emphasis and the proposed changes are summarized at the bottom.

Attachment C highlights the changes as they would appear in the Undergraduate Catalog.

Recommended by Department: *JS Aronson*  
(Chair signature)Date: 1/17/12Recommended by: *Daniel Smith*  
Discipline Specific Curricula Committee (Chair signature)Date: 2/2/2012Approved by Curricula Committee: \_\_\_\_\_  
(Chair signature)

Date: \_\_\_\_\_

Approved by Faculty Senate: \_\_\_\_\_  
(Chair signature)

Date: \_\_\_\_\_

(Revised 1/31/2008)

01/16/12

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**Attachment C**

**Bachelor of Arts  
Biological Sciences  
Secondary Education Emphasis Area  
Degree Requirements**

**old catalog entry**

A degree in this emphasis area requires 137 credit hours. The required courses are provided below. A minimum grade of "C" is required by the department in all mathematics and statistics courses counted toward this degree.

**Humanities: 21 semester hours**

English 20 (3 hours), English 60 or 160 (3 hours), Speech 85 (3 hours), at least one course in each of: Literature and Philosophy and 2 courses in Fine Arts

**Social Sciences: 15 semester hours**

History 111 (3 hours), History 112 (3 hours), History 175 or 176 (3 hours), Political Science 90 (3 hours), Psychology 50 (3 hours)

**Mathematics/Physical Science: 9 semester hours**

At least one course in Math and Physics or Geology, proven proficiency at college algebra

**Computer Science/Statistics: 3 semester hours**

3 semester hours of Computer Science or Statistics

**Chemistry: 17 semester hours**

Chemistry 1, 2, 3, and 4 (9 hours), Chemistry 221, 223 (8 hours)

**Biological Sciences: 30 semester hours**

28 semester hours of required core coursework, Bio Sc 102 (1 hour), Bio Sc 111/112 (5 hours), Bio Sc 113/114 (4 hours), Bio Sc 211/212 (4 hours), Bio Sc 218 (3 hours), Bio Sc 231 (3 hours), Bio Sc 251 (3 hours), History 275 (3 hours), Bio Sc 310 (1 hour), 3 semester hours of advanced biology elective coursework

**Education: 42 semester hours**

Educ 40 (2 hours), Educ 104 (2 hours), Educ 164 (2 hours), Educ 174 (2 hours), Educ 216 (3 hours), Educ 251 (3 hours), Educ 280 (6 hours), Educ 298 (1 hour), Educ 299 (12 hours), Psychology 155 (3 hours), Psychology 208 (3 hours), Psychology 354 (3 hours)



**Attachment C, continued**

**Bachelor of Arts  
Biological Sciences  
Secondary Education Emphasis Area  
Degree Requirements**

**proposed entry**

A degree in this emphasis area requires 131 credit hours. The required courses are provided below. A minimum grade of "C" is required by the department in all mathematics and statistics courses counted toward this degree.

**Humanities: 18 semester hours**

English 20 (3 hours), English 60 or 160 (3 hours), Speech 85 (3 hours), at least one course in each of: Literature, Philosophy, and Fine Arts

**Social Sciences: 15 semester hours**

History 111 (3 hours), History 112 (3 hours), ~~History 175 or 176 (3 hours)~~, History 275 (3 hours), Political Science 90 (3 hours), Psychology 50 (3 hours)

**Mathematics/Physical Science: 9 semester hours**

Math 3 (3 credits)  
Physics 31 (3 credits)  
Geology 51 (3 credits)

**Computer Science/Statistics: 3 semester hours**

3 semester hours of Computer Science or Statistics

**Chemistry: 17 semester hours**

Chemistry 1, 2, 3, and 4 (9 hours), Chemistry 221, 223 (8 hours)

**Biological Sciences: 27 semester hours**

Bio Sc 102 (1 hour), Bio Sc 111/112 (5 hours), Bio Sc 113/114 (4 hours), Bio Sc 151 (3 hours), Bio Sc 211/212 (4 hours), ~~Bio Sc 218 (3 hours)~~, Bio Sc 231 (3 hours), Bio Sc 235 (3 hours), Bio Sc 251 (3 hours), ~~History 275 (3 hours)~~, Bio Sc 310 (1 hour)

**Education: 42 semester hours**

Educ 40 (2 hours), Educ 104 (2 hours), Educ 164 (2 hours), Educ 174 (2 hours), Educ 216 (3 hours), Educ 251 (3 hours), Educ 280 (6 hours), Educ 298 (1 hour), Educ 299 (12 hours), Psychology 155 (3 hours), Psychology 208 (3 hours), Psychology 354 (3 hours)

# Attachment A

1) Coursework currently does not match DESE requirements

## DESE Biology Requirements

- History/Philosophy of Science
- 20 hours in Biology:

- 1) Cell Biology
- 2) Plant Form and Function
- 3) Animal Form and Function
- 4) Genetics
- 5) Evolution
- 6) Biology Electives

## Current B.A. Secondary Ed

Hist 275 History of Sci	3
BIO 211/212 Cell Biol	4
BIO 218 Plant Biol	3
BIO 113/114 Biodiversity	4
BIO 231 Genetics	3
BIO 113/114 Biodiversity	3
BIO 102 Intro to BioSci	1
BIO 111/112 Princ Biol	5
BIO 251 Ecology	3
BIO 310 Senior Seminar	1
BIO elective	3

Total Biology 30

c. 10 additional hours in Science:

1) Chemistry	Chem 1, 2, 3, 4, 221, 223	17
2) Physics	Physics 6/8 Env Physics	4
3) Earth Science		
4) Environmental Science		

## DESE Biology Requirements

- History/Philosophy of Science
- 20 hours in Biology:

- 1) Cell Biology
- 2) Plant Form and Function
- 3) Animal Form and Function
- 4) Genetics
- 5) Evolution
- 6) Biology Electives

## Proposed B.A. Secondary Ed

Hist 275 History of Sci	3
BIO 211/212 Cell Biol	4
BIO 111/112, 113/114 Princ Biol, Biodiversity	9
BIO 231 Genetics	3
BIO 235 Evolution	3
BIO 102 Intro to BioSci	1
BIO 310 Senior Seminar	1

Total Biology 30

c. 10 additional hours in Science:

1) Chemistry	Chem 1, 2, 3, 4, 221, 223	17
2) Physics	Physics 31 College Phys	3
3) Earth Science	BIO 151 Intro Env Sci	3
	BIO 251 Ecology	3
	Geol 51 Phys Env Geol	3
4) Environmental Science	BIO 151 Intro Env Sci	

Proposed changes:

Eliminate:

BIO 218  
BIO any  
Physics 6/8

Add:

BIO 151  
BIO 235  
Physics 31  
Geol 51

**Attachment B**

**2)**

137 total hours

**B.A. Biology**

**Humanities:**

Engl 20

Engl 60

1 literature course

1 philosophy course

1 fine arts course

Humanities elective

3  
3  
3  
3  
3  
3

**Current**

**B.A. Biology Secondary Ed Emphasis**

**Humanities:**

Engl 20

Engl 60

1 literature course

1 philosophy course

2 fine arts courses

3  
3  
3  
3  
6

**Social Sciences:**

Hist 111/112

4 courses in at least 2 areas:

PolSci

Psychology

Economics

6  
12

**Social Sciences:**

Hist 111/112

PolSci 90

Psychology (TEP\*)

Hist 175 or 176

6  
3  
12  
3

Speech 85 (TEP\*)

3

**\* S&T Teacher Education Program requirement**

**Proposed changes:**

**Allow:**

Speech 85 to count as Humanities

**Eliminate:**

1 fine arts course

Hist 175 or 176 requirement

Effective Year: 2012  
Term: Summer ☐ Fall ☒ Spring ☒

CC File # 8185-2011-Geol-344-32

## Course Change Form (CC)

This form is for creating or modifying permanent courses.

### Course Changes (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒  
Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

### Course Information (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Geological Sciences and Eng  
2. Discipline and Course Number: Present : Geo 344 Proposed:  
3. Course Title: Present: Remote Sensing Technology  
Proposed:

Abbreviated Course Title:  
(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)  
Present:

Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture: 2.0 Lab: 1.0 Total: 3.0  
Proposed: Lecture: Lab: Total:

7. Prerequisites:  
Present: Geo 248

Proposed: Geo 51 or Geo 52 or GeoEng 50

8. Required for Majors: ☒ Elective for Majors: ☐

9. Justification: Geo 248 "Fundamentals of GIS" course deals with vector-oriented analysis whereas Geo 344 deals with raster data, aerial photography and orbital remote sensing data. Only fundamental knowledge of introductory geology is needed.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) GEO ENG 344 - 2) IAS ? 3)  
4) 5) 6)

Recommended by Department: [Signature] Date: 9/22/11  
(Chair signature)

Recommended by Discipline Specific Curricula Committee: [Signature] Date: 10/28/2011  
(Chair signature)

Approved by Curricula Committee: \_\_\_\_\_ Date: \_\_\_\_\_  
(Chair signature)

Approved by Faculty Senate: \_\_\_\_\_ Date: \_\_\_\_\_  
(Chair signature)

(Revised 1/29/09)