



**Minutes of the Campus Curricula Committee Meeting**

**February 6, 2019**

**9:00am, Bertelsmeyer 110H**

**(For Faculty Senate Meeting of February 21, 2019)**

**Attendees:** Steve Raper, Petra Dewitt, Thomas Schuman, Barry Flachsbart, Kyle Perry, Kristy Giacomelli, and Brittany Parnell

The following curriculum forms were discussed and approved:

**Course Change Forms:**

File: 786.1	BIO SCI 3353: Comparative Vertebrate Chordate Anatomy
File: 975.1	BIO SCI 4433: Genomics
File: 1637.1	BIO SCI 4533: Neurobiology
File: 1488.3	BIO SCI 4563: Global Ecology
File: 4593	BIO SCI 6433: Advanced Genomics
File: 4594	BIO SCI 6533: Advanced Neurobiology
File: 4592	BIO SCI 6563: Advanced Global Ecology
File: 4291.6	CHEM ENG 5161: Intermediate Molecular Engineering
File: 1747.1	ECON 4540: Energy Economics
File: 2214.11	ELEC ENG 4096: Electrical Engineering Senior Project I
File: 1388.2	ELEC ENG 4097: Electrical Engineering Senior Project II
File: 691.1	ELEC ENG 6830: Clustering Algorithms
File: 1748.1	ENGLISH 3218: The British Novel
File: 254.1	MS&E 5210: Tissue Engineering
File: 2334.1	MS&E 6210: Advanced Tissue Engineering
File: 1260.1	PET ENG 4210: Drilling and Well Design

**Experimental Course Forms:**

File: 4588	BIO SCI 4001.004: Animal Behavior
File: 4589	EXP ENG 6001.005: Construction Blasting

**The Course Curricula Committee (CCC) unanimously did not approve *ENGLISH 3219: The Lives and Works of J.R.R. Tolkien and C.S. Lewis*, due to significant changes in content and course title; the committee recommended an experimental course and course deactivation to be submitted.**

The CCC discussed the issue/concern with regard to implementing a policy for prior admission into a discipline or department as an appropriate course prerequisite. The committee understands that this policy is not intended to be broadly applied for use in most classes or departments, but would be useful to departments as a means to control enrollments under special circumstances. The CCC unanimously approved this as an appropriate prerequisite. The Registrar's office indicated that CourseLeaf can verify this as a prerequisite.

The CCC discussed the implications of establishing a grade of "B" as a satisfactory course prerequisite. The CCC unanimously did not approve this as a legitimate prerequisite for a course. Current regulations for grade replacement do not allow replacement of a "C" grade. Consequently, a student could earn a "C" grade in a specified prerequisite course which would prohibit later enrollment in the same course, effectively stopping progress toward a degree and graduation. The committee heard a suggestion that, in lieu of changing the current prerequisite of 'minimum of a C grade' to a B grade, the department should instead change the passing requirements of the prerequisite course, which is taught by the same department. This change would make the prerequisite course to be at an appropriate level to attain the prerequisite skills needed in the following course as a C grade.

The tentative March 6, 2019 CCC meeting was canceled.

The meeting adjourned at 9:42am.



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Stephen A. Raper, Chair  
Missouri S&T Campus Curricula Committee

## Course Change Request

Date Submitted: 12/13/18 2:24 pm

Viewing: **BIO SCI 3353 4343-: Comparative Vertebrate Chordate Anatomy**

File: 786.1

Last edit: 02/06/19 11:49 am

Changes proposed by: niyogid

Requested **Fall 2019** ~~08/01/2014~~  
 Effective Change Date  
 Department Biological Sciences  
 Discipline Biological Sciences (BIO SCI)  
 Course Number **3353 4343**  
 Title Comparative **Vertebrate** ~~Chordate~~-Anatomy  
 Abbreviated Comp **Vert** ~~Chordate~~  
 Course Title Anatomy

In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Catalog

Description

An integrated, comparative study of **vertebrate chordate**-structures and systems, with emphasis on evolution, development and function. Includes examination of gross anatomy and histology of selected forms.

Prerequisites

Bio Sci 1223, Bio Sci 1229.

Field Trip

Statement

Credit Hours      LEC: 2              LAB: 2              IND: 0              RSD: 0              Total: 4

Required for      No

Majors

Elective for      **Yes No**

Majors

Approval Path

1. 12/13/18 2:26 pm  
David Duvernell (duverneld):  
Approved for  
RBIOLSCI Chair
2. 12/13/18 3:07 pm  
Brittany Parnell (ershenb):  
Approved for CCC  
Secretary
3. 01/09/19 10:19 am  
Katie Shannon (shannonk):  
Approved for  
Sciences DSCC  
Chair
4. 01/15/19 9:52 am  
Brittany Parnell (ershenb):  
Approved for

Justification for

change:

We are changing the number and name for this class. The name change switches "chordate" to "vertebrate" as that is what the course covers and the name is more familiar to a broader audience. The number change is because the class will be taught at an intermediate (3000-level) rather than an advanced (4000-level).

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments  
**ershenb (02/06/19 11:49 am):** checked "Yes" Elective for Majors

Key: 786

Pending CCC  
Agenda post  
5. 02/06/19 11:49  
am  
Brittany Parnell  
(ershenb):  
Approved for CCC  
Meeting Agenda  
6. 02/06/19 11:53  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

[Preview Bridge](#)

## Course Change Request

Date Submitted: 01/09/19 10:49 am

Viewing: **BIO SCI 4433** ~~5333~~: Genomics

File: 975.1

Last edit: 01/10/19 10:01 am

Changes proposed by: shannonk

Requested **Fall 2019** ~~08/14/2018~~

Effective Change

Date

Department Biological Sciences

Discipline Biological Sciences (BIO SCI)

Course Number **4433** ~~5333~~

Title Genomics

Abbreviated Genomics

Course Title

**Catalog Description** This course offers a general overview of the field of genomics. Topics covered include genome sequencing and annotation, transcriptomics, proteomics, metabolomics, genomic variation, and an overview of human, and several animal, plant, and microbial genome projects.

**Prerequisites** **Bio Sci** ~~BIO-SCI~~4323.

**Field Trip Statement**

**Credit Hours** LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3

**Required for Majors** No

**Elective for Majors** **Yes** ~~No~~

**Justification for change:** Splitting 5000 level course into 4000 and 6000 level to give graduate students more options at 6000 level

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

**Course Reviewer Comments**

### In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

### Approval Path

1. 01/09/19 10:51 am  
David Duvernell (duvernell):  
Approved for RBIOLSCI Chair
2. 01/10/19 10:02 am  
Brittany Parnell (ershenb):  
Approved for CCC Secretary
3. 01/11/19 2:17 pm  
Katie Shannon (shannonk):  
Approved for Sciences DSCC Chair
4. 01/15/19 9:54 am  
Brittany Parnell (ershenb):  
Approved for Pending CCC Agenda post
5. 02/06/19 11:50 am  
Brittany Parnell (ershenb):  
Approved for CCC Meeting Agenda

Key: 975

6. 02/06/19 11:53  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

[Preview Bridge](#)

## Course Change Request

Date Submitted: 01/09/19 11:34 am

Viewing: **BIO SCI 4533** ~~5433~~: Neurobiology

File: 1637.1

Last edit: 01/09/19 11:34 am

Changes proposed by: shannonk

Requested **Fall 2019** ~~08/14/2018~~

Effective Change

Date

Department Biological Sciences

Discipline Biological Sciences (BIO SCI)

Course Number **4533** ~~5433~~

Title Neurobiology

Abbreviated Neurobiology

Course Title

**Catalog Description** An intermediate course in cellular neurobiology. Emphasis will be placed on the unique properties of neurons and other excitable cells. Topics covered include the structure and biophysical properties of neurons, synaptic transmission, neurochemistry, signal transduction, neuropharmacology and neurodevelopment.

**Prerequisites** Bio Sci 2213.

**Field Trip Statement**

**Credit Hours** LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3

**Required for Majors** No

**Elective for Majors** **Yes** ~~No~~

**Justification for change:** Splitting 5000 level into 4000 and 6000 to offer more 6000 level courses for graduate students

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

**Course Reviewer Comments**

### In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

### Approval Path

1. 01/09/19 12:58 pm  
David Duvernell (duvernell):  
Approved for RBIOLSCI Chair
2. 01/10/19 10:02 am  
Brittany Parnell (ershenb):  
Approved for CCC Secretary
3. 01/11/19 2:17 pm  
Katie Shannon (shannonk):  
Approved for Sciences DSCC Chair
4. 01/15/19 9:54 am  
Brittany Parnell (ershenb):  
Approved for Pending CCC Agenda post
5. 02/06/19 11:50 am  
Brittany Parnell (ershenb):  
Approved for CCC Meeting Agenda

Key: 1637

6. 02/06/19 11:53  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

[Preview Bridge](#)

## Course Change Request

Date Submitted: 01/09/19 10:42 am

Viewing: **BIO SCI 4563** ~~5463~~: Global Ecology

File: 1488.3

Last approved: 06/29/15 3:51 am

Last edit: 01/09/19 10:42 am

Changes proposed by: shannonk

Requested **Fall 2019** ~~01/12/2016~~

Effective Change

Date

Department Biological Sciences

Discipline Biological Sciences (BIO SCI)

Course Number **4563** ~~5463~~

Title Global Ecology

Abbreviated Global Ecology

Course Title

**Catalog Description** This class covers ecological topics at large scales, emphasizing global scales. Topics include global energy balance, biogeochemical cycles of water, carbon, nitrogen, and other biologically important elements, and global biodiversity. Students will focus on primary literature related to global ecology.

**Prerequisites** Bio Sci 2263.

**Field Trip Statement**

**Credit Hours** LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3

**Required for Majors** No

**Elective for Majors** Yes

**Justification for change:** Splitting the 5000 level course into a 4000 and 6000 level to give graduate students more 6000 level courses

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

**Course Reviewer Comments**

### In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

### Approval Path

1. 01/09/19 10:51 am  
David Duvernell (duverneld):  
Approved for RBIOLSCI Chair
2. 01/10/19 10:03 am  
Brittany Parnell (ershenb):  
Approved for CCC Secretary
3. 01/11/19 2:17 pm  
Katie Shannon (shannonk):  
Approved for Sciences DSCC Chair
4. 01/15/19 9:54 am  
Brittany Parnell (ershenb):  
Approved for Pending CCC Agenda post
5. 02/06/19 11:50 am  
Brittany Parnell (ershenb):  
Approved for CCC Meeting Agenda

Key: 1488

6. 02/06/19 11:53  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

#### History

1. Jun 29, 2015 by  
niyogid (1488.1)

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## Course Change Request

### New Course Proposal

Date Submitted: 01/09/19 10:53 am

Viewing: **BIO SCI 6433 : Advanced Genomics**

File: 4593

Last edit: 01/15/19 10:24 am

Changes proposed by: shannonk

Requested	Fall 2019
Effective Change Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6433
Title	Advanced Genomics
Abbreviated Course Title	Advanced Genomics

In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

<p><b>Catalog Description</b></p> <p>An overview of the field of genomics. Topics covered include genome sequencing and annotation, transcriptomics, proteomics, metabolomics, genomic variation, and human, and several animal, plant, and microbial genome projects. Students will complete an independent genomics project that incorporates concepts and bioinformatics tools learned.</p> <p><b>Prerequisites</b></p> <p>Students may not receive credit for both Bio Sci 4433 and Bio Sci 6433.</p> <p><b>Field Trip Statement</b></p> <p></p> <p><b>Credit Hours</b></p> <p>LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3</p> <p><b>Required for Majors</b></p> <p>No</p> <p><b>Elective for Majors</b></p> <p>Yes</p>	<p><b>Approval Path</b></p> <ol style="list-style-type: none"> <li>1. 01/09/19 12:58 pm David Duvernell (duvernell): Approved for RBIOLSCI Chair</li> <li>2. 01/10/19 10:04 am Brittany Parnell (ershenb): Approved for CCC Secretary</li> <li>3. 01/11/19 2:18 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair</li> <li>4. 01/15/19 9:55 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post</li> <li>5. 02/06/19 11:50 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda</li> </ol>
<p><b>Justification for new course:</b></p> <p>Splitting 5000 level course into 4000 and 6000 level to give graduate students more options at 6000 level</p> <p><b>Semesters previously offered as an experimental course</b></p> <p>Previously offered as Genomics 5333</p> <p><b>Co-Listed Courses:</b></p> <p></p>	
<p><b>Course Reviewer Comments</b></p> <p></p>	

Key: 4593

6. 02/06/19 11:53  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

[Preview Bridge](#)

## Course Change Request

### New Course Proposal

Date Submitted: 01/09/19 11:37 am

Viewing: **BIO SCI 6533 : Advanced Neurobiology**

File: 4594

Last edit: 01/15/19 9:55 am

Changes proposed by: shannonk

Requested	Fall 2019
Effective Change Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6533
Title	Advanced Neurobiology
Abbreviated Course Title	Advanced Neurobiology

In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Catalog Description	A course in cellular neurobiology. Emphasis will be placed on the unique properties of neurons and other excitable cells. Topics include the structure and biophysical properties of neurons, synaptic transmission, neurochemistry, signal transduction, neuropharmacology and neurodevelopment. Students will give a 30 min class presentation on a relevant subject.					<b>Approval Path</b> 1. 01/09/19 12:58 pm David Duvernell (duverneld): Approved for RBIOLSCI Chair 2. 01/10/19 10:06 am Brittany Parnell (ershenb): Approved for CCC Secretary 3. 01/11/19 2:19 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair 4. 01/15/19 9:56 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post 5. 02/06/19 11:51 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda
Prerequisites	Students may not receive credit for both Bio Sci 4533 and Bio Sci 6533.					
Field Trip Statement						
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	
Required for Majors	No					
Elective for Majors	Yes					
Justification for new course:	Splitting 5000 level course into 4000 and 6000 level to provide more 6000 level courses for graduate students					
Semesters previously offered as an experimental course	Previously offered as 5433					
Co-Listed Courses:						
Course Reviewer Comments						

Key: 4594

6. 02/06/19 11:53  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

[Preview Bridge](#)

## Course Change Request

### New Course Proposal

Date Submitted: 01/09/19 10:45 am

Viewing: **BIO SCI 6563 : Advanced Global Ecology**

File: 4592

Last edit: 01/15/19 9:56 am

Changes proposed by: shannonk

Requested	Fall 2019
Effective Change Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6563
Title	Advanced Global Ecology
Abbreviated Course Title	Advanced Global Ecology

In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

<p>Catalog Description</p> <p>Prerequisites</p> <p>Field Trip Statement</p> <p>Credit Hours</p> <p>Required for Majors</p> <p>Elective for Majors</p>	<p>This class covers ecological topics at large scales, emphasizing global scales. Topics include global energy balance, biogeochemical cycles of water, carbon, nitrogen, and other biologically important elements, and global biodiversity. Students will focus on primary literature related to global ecology. Research proposal and additional readings required.</p> <p>Students may not receive credit for both Bio Sci 4563 and Bio Sci 6563.</p> <p>LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3</p> <p>No</p> <p>Yes</p>	<p>Approval Path</p> <ol style="list-style-type: none"> <li>1. 01/09/19 10:51 am David Duvernell (duvernell): Approved for RBIOLSCI Chair</li> <li>2. 01/10/19 10:11 am Brittany Parnell (ershenb): Approved for CCC Secretary</li> <li>3. 01/11/19 2:19 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair</li> <li>4. 01/15/19 9:56 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post</li> <li>5. 02/06/19 11:51 am Brittany Parnell (ershenb): Approved for CCC Meeting Agenda</li> </ol>
<p>Justification for new course:</p> <p>Semesters previously offered as an experimental course</p> <p>Co-Listed Courses:</p>	<p>Splitting the 5000 level course into a 4000 and 6000 level to give graduate students more 6000 level courses</p>	
<p>Course Reviewer Comments</p>		

Key: 4592

6. 02/06/19 11:52  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

[Preview Bridge](#)

## Course Change Request

Date Submitted: 12/10/18 2:36 pm

Viewing: **CHEM ENG 5161 : Intermediate Molecular Engineering**

File: 4291.6

Last approved: 05/24/16 4:57 am

Last edit: 12/10/18 2:36 pm

Changes proposed by: jcwang

Requested	<b>Fall 2019</b> <del>08/14/2018</del>
Effective Change Date	
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	5161
Title	Intermediate Molecular Engineering
Abbreviated Course Title	Molecular Engineering

Catalog Description	Molecular aspects of chemical thermodynamics, transport processes, reaction dynamics, and statistical and quantum <b>mechanics, and their treatments in molecular-based modeling and simulation approaches.</b> <del>mechanics.</del>
Prerequisites	Chem Eng 3120 or graduate standing.
Field Trip Statement	
Credit Hours	LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3
Required for Majors	No
Elective for Majors	Yes

Justification for change: The extension of the course description is to add one more important topic that reflects current progresses and bridges the gap between fundamental science and engineering applications.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Approval Path

1. 12/11/18 6:04 pm  
Muthanna Al-Dahhan (aldahhanm):  
Approved for RCHEMENG Chair
2. 12/12/18 9:52 am  
Brittany Parnell (ershenb):  
Approved for CCC Secretary
3. 12/17/18 12:15 pm  
Stephen Raper (sraper):  
Approved for Engineering DSCC Chair
4. 12/17/18 1:18 pm  
Brittany Parnell (ershenb):  
Approved for Pending CCC Agenda post
5. 02/06/19 11:53 am  
Brittany Parnell (ershenb):  
Approved for CCC Meeting Agenda

Key: 4291

6. 02/06/19 11:53  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

#### History

1. May 24, 2016 by  
Daniel Forciniti  
(forcinit)

[Preview Bridge](#)

## Course Change Request

Date Submitted: 11/14/18 10:28 am

Viewing: **ECON 4540 : Energy Economics**

File: 1747.1

Last edit: 11/14/18 10:28 am

Changes proposed by: ershenb

Requested **Fall 2019** ~~08/14/2018~~  
 Effective Change Date  
 Department Economics  
 Discipline Economics (ECON)  
 Course Number 4540  
 Title Energy Economics  
 Abbreviated Energy Economics  
 Course Title

In Workflow

1. RECONOMI Chair
2. RCEMENG Chair
3. MINEXP ENG Chair
4. CCC Secretary
5. Social Sciences DSCC Chair
6. Engineering DSCC Chair
7. Pending CCC Agenda post
8. CCC Meeting Agenda
9. Campus Curricula Committee Chair

10. FS Meeting Agenda

11. Faculty Senate Chair
12. Registrar
13. CAT entry
14. Peoplesoft

Approval Path

1. 11/14/18 1:18 pm Gregory Gelles (gelles): Approved for RECONOMI Chair
2. 11/15/18 4:38 am Muthanna Al-Dahhan (aldahhanm): Approved for RCEMENG Chair
3. 12/05/18 8:18 am Kwame Awuah-Offei (kwamea): Approved for MINEXP ENG Chair
4. 12/05/18 8:23 am Brittany Parnell (ershenb): Approved for CCC Secretary
5. 12/05/18 9:57 am Barry Flachsbarth (barryf):

Catalog Description ~~Market structure. World resource development. For students interested in both economic supply and engineering issues of demand analysis on energy policy. production and consumption within domestic and global settings. Provides an assessment of economics and technology issues related to traditional and renewable energy resources. Presented in a framework that allows for analysis of the economic trade-offs between energy sources and the technologies associated with their use and extraction.~~

Prerequisites Econ 2100.

Field Trip Statement

Credit Hours LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3

Required for Majors No

Elective for Majors No

Justification for change: This form is being submitted to correct previous form submissions for co-listing CHEM ENG 4540 and MIN ENG 4524 to ECON 4540 which negated the primary/secondary relationship; This form will correctly identify ECON as the primary department.

Semesters previously offered as an experimental course

Co-Listed Courses: CHEM ENG 4540 - Energy Economics  
**MIN ENG 4524 - Energy Economics**

Course Reviewer Comments

Key: 1747

- Approved for  
Social Sciences  
DSCC Chair
6. 12/17/18 12:15  
pm  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
7. 12/17/18 1:18 pm  
Brittany Parnell  
(ershenb):  
Approved for  
Pending CCC  
Agenda post
8. 02/06/19 11:59  
am  
Brittany Parnell  
(ershenb):  
Approved for CCC  
Meeting Agenda
9. 02/06/19 12:57  
pm  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

[Preview Bridge](#)

## Course Change Request

Date Submitted: 12/13/18 2:36 pm

Viewing: **ELEC ENG 4096 : Electrical Engineering Senior Project I**

File: 2214.11

Last approved: 06/29/18 3:39 am

Last edit: 12/17/18 8:50 am

Changes proposed by: ferdowski

Programs referencing this course	<a href="#">CP ENG-BS: Computer Engineering BS</a> <a href="#">EL ENG-BS: Electrical Engineering BS</a>
Other Courses referencing this course	In The Prerequisites: <a href="#">ELEC ENG 4097 : Electrical Engineering Senior Project II</a>

Requested	Fall <del>Spring</del> 2019
Effective Change Date	
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	4096
Title	Electrical Engineering Senior Project I
Abbreviated Course Title	EE Senior Project I

Catalog Description	A complete design cycle. Working in small teams, students will design, document, analyze, implement and test a product. Topics include: Iteration in design, prototyping, group dynamics, design reviews, making effective presentations, concurrent design, designing for test, ethics and standards, testing and evaluation.				
Prerequisites	Comp Eng 2210, Econ 1100 or Econ 1200, English 3560 <b>or English 1160</b> , and at least three of the following: Elec Eng 3500 or Elec Eng 3540; Elec Eng 3320, Elec Eng 3430, Elec Eng 3600 or Elec Eng 3100.				
Field Trip Statement					
Credit Hours	LEC: 0	LAB: .5	IND: 0	RSD: .5	Total: 1
Required for Majors	Yes				
Elective for Majors	No				

Justification for change:	This change has already been made to the EE curriculum. It has not be reflected here yet.
Semesters previously offered as an	

- In Workflow
1. RELECENG Chair
  2. CCC Secretary
  3. Engineering DSCC Chair
  4. Pending CCC Agenda post
  5. CCC Meeting Agenda
  6. Campus Curricula Committee Chair
  7. FS Meeting Agenda
  8. Faculty Senate Chair
  9. Registrar
  10. CAT entry
  11. Peoplesoft

- Approval Path
1. 12/16/18 6:28 pm  
Daryl Beetner (daryl): Approved for RELECENG Chair
  2. 12/17/18 8:51 am  
Brittany Parnell (ershenb): Approved for CCC Secretary
  3. 01/21/19 11:17 am  
Stephen Raper (sraper): Approved for Engineering DSCC Chair
  4. 01/22/19 7:47 am  
Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
  5. 02/06/19 12:00 pm  
Brittany Parnell (ershenb): Approved for CCC Meeting Agenda

experimental  
course  
Co-Listed  
Courses:

6. 02/06/19 12:57  
pm  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

Course Reviewer
Comments

Key: 2214

**History**

1. Apr 28, 2014 by lahne (2214.1)
2. Oct 20, 2014 by lahne (2214.2)
3. Jun 29, 2018 by sweetk (2214.3)

[Preview Bridge](#)

## Course Change Request

Date Submitted: 12/13/18 2:37 pm

Viewing: **ELEC ENG 4097 : Electrical Engineering Senior Project II**

File: 1388.2

Last approved: 04/28/14 4:00 am

Last edit: 01/14/19 3:33 pm

Changes proposed by: ferdowski

Programs referencing this course  
[CP ENG-BS: Computer Engineering BS](#)  
[EL ENG-BS: Electrical Engineering BS](#)

Requested **Fall 2019** ~~01/13/2015~~  
 Effective Change Date  
 Department Electrical and Computer Engineering  
 Discipline Electrical Engineering (ELEC ENG)  
 Course Number 4097  
 Title Electrical Engineering Senior Project II  
 Abbreviated Course Title EE Senior Project II

Catalog Description A continuation of El Eng 4096.  
 Prerequisites Elec Eng 4096 with a grade of "C" or **better; better**, Stat **3117 or Stat 3115 or Stat 5643; 3117**, Sp&M S 1185.  
 Field Trip Statement  
 Credit Hours LEC: 0      LAB: 3      IND: 0      RSD: 0      Total: 3  
 Required for Majors **Yes No**  
 Elective for Majors No

Justification for change: This change has already been made to the EE curriculum. It has not be reflected here yet.  
 Semesters previously offered as an experimental course  
 Co-Listed Courses:

Course Reviewer **sraper (01/14/19 3:33 pm)**: changed to required for majors.  
 Comments

- In Workflow
1. RELECENG Chair
  2. CCC Secretary
  3. Engineering DSCC Chair
  4. Pending CCC Agenda post
  5. CCC Meeting Agenda
  6. Campus Curricula Committee Chair
  7. FS Meeting Agenda
  8. Faculty Senate Chair
  9. Registrar
  10. CAT entry
  11. Peoplesoft

- Approval Path
1. 12/16/18 6:28 pm  
Daryl Beetner (daryl): Approved for RELECENG Chair
  2. 12/17/18 9:12 am  
Brittany Parnell (ershenb): Approved for CCC Secretary
  3. 01/21/19 11:17 am  
Stephen Raper (sraper): Approved for Engineering DSCC Chair
  4. 01/22/19 7:47 am  
Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
  5. 02/06/19 12:12 pm  
Brittany Parnell (ershenb): Approved for CCC Meeting Agenda

Key: 1388

6. 02/06/19 12:57  
pm  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

#### History

1. Apr 28, 2014 by  
lahne (1388.1)

[Preview Bridge](#)

## Course Change Request

Date Submitted: 11/29/18 11:20 am

Viewing: **ELEC ENG 6830** ~~6340~~: Clustering Algorithms

File: 691.1

Last edit: 11/29/18 11:20 am

Changes proposed by: kte

Requested **Fall 2019** ~~08/01/2014~~  
 Effective Change  
 Date

Department Electrical and Computer Engineering

Discipline Electrical Engineering (ELEC ENG)

Course Number **6830** ~~6340~~

Title Clustering Algorithms

Abbreviated Clustering Algorithms  
 Course Title

### In Workflow

1. RELECENG Chair
2. RENG MNGT Chair
3. RCOMPSCI Chair
4. RMATHEMA Chair
5. CCC Secretary
6. Engineering DSCC Chair
7. Pending CCC Agenda post
8. CCC Meeting Agenda
9. Campus Curricula Committee Chair
10. FS Meeting Agenda

11. Faculty Senate Chair
12. Registrar
13. CAT entry
14. Peoplesoft

### Approval Path

1. 11/29/18 12:12 pm  
Daryl Beetner (daryl): Approved for RELECENG Chair
2. 12/12/18 11:32 am  
Suzanna Long (longsuz): Approved for RENG MNGT Chair
3. 01/09/19 3:44 pm  
Bruce McMillin (ff): Approved for RCOMPSCI Chair
4. 01/09/19 5:06 pm  
sclark: Approved for RMATHEMA Chair
5. 01/10/19 10:12 am  
Brittany Parnell (ershenb):

Catalog Description	An introduction to cluster analysis and clustering algorithms rooted in computational intelligence, computer science and statistics. Clustering in sequential data, massive data and high dimensional data. Students will be evaluated by individual or group research projects and research presentations.				
Prerequisites	At least one graduate course in statistics, data mining, algorithms, computational intelligence, or neural networks, consistent with student's degree program.				
Field Trip Statement					
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
Required for Majors	No				
Elective for Majors	<b>Yes</b> <del>No</del>				

Justification for change: In ECE, the second digit in a course represents an area. A digit of "3" should be a control systems course and this is not a controls course. The second digit changed to "8" which is the correct one for areas outside of EE. Changed the 3rd digit to more closely align the number with the CpE 6330 primary course.

Also corrected STAT co-listed course

Semesters previously offered as an experimental course

Co-Listed Courses: COMP ENG 6330 - Clustering Algorithms  
 SYS ENG 6214 - Clustering Algorithms  
 COMP SCI 6405 - Clustering Algorithms  
~~AND STAT 6239 - Course Not Found~~  
**STAT 6239 - Clustering Algorithms**

Course Reviewer Comments	Approved for CCC Secretary
<small>Key: 691</small>	6. 01/21/19 11:18 am Stephen Raper (sraper): Approved for Engineering DSCC Chair
	7. 01/22/19 7:47 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
	8. 02/06/19 12:16 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda
	9. 02/06/19 12:57 pm Stephen Raper (sraper): Approved for Campus Curricula Committee Chair

[Preview Bridge](#)

# Course Change Request

Date Submitted: 01/07/19 3:05 pm

Viewing: **ENGLISH 3218 : The British Novel ↓**

File: 1748.1

Last edit: 02/07/19 10:50 am

Changes proposed by: kswenson

Requested **Fall 2019** ~~08/01/2014~~  
 Effective Change Date  
 Department English and Technical Communication  
 Discipline English (ENGLISH)  
 Course Number 3218  
 Title The British Novel ↓  
 Abbreviated Course Title The British Novel ↓

In Workflow

1. **RENGLISH Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **FS Meeting Agenda**
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Catalog Description  
 The history, development, and cultural contexts of the British novel from the late seventeenth **century** to the **present**. ~~early nineteenth century.~~

Prerequisites  
 English 1120 and a semester **of** college literature.

Field Trip Statement

Credit Hours      LEC: 3              LAB: 0              IND: 0              RSD: 0              Total: 3

Required for Majors      No

Elective for Majors      **Yes** ~~No~~

Approval Path

1. 01/07/19 3:11 pm  
 Kristine Swenson (kswenson):  
 Approved for RENGGLISH Chair
2. 01/08/19 8:54 am  
 Brittany Parnell (ershenb):  
 Approved for CCC Secretary
3. 01/09/19 10:10 am  
 Petra Dewitt (dewittp):  
 Approved for Arts & Humanities DSCC Chair
4. 01/15/19 9:56 am  
 Brittany Parnell (ershenb):

Justification for change:  
 Change of title and description to reflect the content of the course.

Semesters previously offered as an experimental course

Co-Listed

Courses:

Course Reviewer

Comments

**ershenb (02/07/19 10:50 am):** Added "century" to description; Checked 'Yes'  
Elective for Majors.

Approved for

Pending CCC

Agenda post

5. 02/07/19 1:45 pm

Brittany Parnell

(ershenb):

Approved for CCC

Meeting Agenda

6. 02/08/19 9:18 am

Stephen Raper

(sraper):

Approved for

Campus Curricula

Committee Chair

Key: 1748

[Preview Bridge](#)

## Course Change Request

Date Submitted: 11/13/18 3:51 pm

Viewing: **MS&E 5210 : Tissue Engineering †**

File: 254.1

Last edit: 01/14/19 3:34 pm

Changes proposed by: smiller

In Workflow

1. **RMATSENG Chair**
2. **RBIOLSCI Chair**
3. **CCC Secretary**
4. **Engineering DSCC Chair**
5. **Sciences DSCC Chair**
6. **Pending CCC Agenda post**
7. **CCC Meeting Agenda**
8. **Campus Curricula Committee Chair**
9. **FS Meeting Agenda**
10. Faculty Senate Chair
11. Registrar
12. CAT entry
13. Peoplesoft

Other Courses referencing this course	In The Catalog Description: <a href="#">BIO SCI 5240 : Tissue Engineering I</a>
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Requested	<b>Fall 2019</b> <del>08/14/2018</del>
Effective Change Date	
Department	Materials Science & Engineering
Discipline	Materials Science & Eng (MS&E)
Course Number	5210
Title	Tissue Engineering †
Abbreviated Course Title	Tissue Engineering †

Catalog Description	The course will <b>use problem-based case studies</b> <del>introduce senior undergraduate students to</del> <b>introduce junior and senior undergraduate students to</b> the principles <b>and</b> <del>and</del> clinical applications of tissue <b>engineering</b> . <del>engineering including the use of biomaterials scaffolds, living cells and signaling factors to develop implantable parts for the restoration, maintenance, or replacement of biological tissues and organs.</del> <b>Topics include the use of biomaterials, scaffolds, cells, and external factors to develop implantable parts for the restoration, maintenance, or replacement of tissues and organs.</b>	Approval Path
Prerequisites	<b>Junior or</b> Senior standing.	1. 11/14/18 9:47 am Greg Hilmas (ghilmas): Approved for RMATSENG Chair
Field Trip Statement		2. 12/13/18 2:28 pm David Duvernell (duvernell): Approved for RBIOLSCI Chair
Credit Hours	LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3	3. 12/13/18 3:38 pm Brittany Parnell (ershenb): Approved for CCC Secretary
Required for Majors	No	4. 01/21/19 11:15 am Stephen Raper (sraper): Approved for Engineering DSCC Chair
Elective for Majors	<b>Yes</b> <del>No</del>	5. 01/22/19 9:19 am Katie Shannon (shannonk): Approved for
Justification for change:	Name and description change to more accurately describe what is currently discussed in the course.	
Semesters previously offered as an experimental course		
Co-Listed Courses:	BIO SCI 5240 - Tissue Engineering I	

Course Reviewer <b>sraper (01/14/19 3:34 pm)</b> : changed to elective for majors Comments	Sciences DSCC Chair 6. 01/22/19 9:33 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post 7. 02/07/19 2:57 pm Brittany Parnell (ershenb): Approved for CCC Meeting Agenda 8. 02/08/19 9:18 am Stephen Raper (sraper): Approved for Campus Curricula Committee Chair
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Key: 254

[Preview Bridge](#)

## Course Change Request

Date Submitted: 11/13/18 3:51 pm

Viewing: **MS&E 6210 : Advanced Tissue Engineering #**

File: 2334.1

Last edit: 01/14/19 3:35 pm

Changes proposed by: smiller

Other Courses referencing this course

In The Catalog Description:  
[BIO SCI 6240 : Tissue Engineering II](#)

Requested **Fall 2019 ~~08/01/2014~~**

Effective Change Date

Department Materials Science & Engineering

Discipline Materials Science & Eng (MS&E)

Course Number 6210

Title **Advanced** Tissue Engineering #

Abbreviated **Adv** Tissue Engineering #

Course Title

In Workflow

1. **RMATSENG Chair**
2. **RBIOLSCI Chair**
3. **CCC Secretary**
4. **Engineering DSCC Chair**
5. **Sciences DSCC Chair**
6. **Pending CCC Agenda post**
7. **CCC Meeting Agenda**
8. **Campus Curricula Committee Chair**
9. **FS Meeting Agenda**
10. Faculty Senate Chair
11. Registrar
12. CAT entry
13. Peoplesoft

Catalog Description The course will introduce graduate students to the principles and clinical applications of tissue engineering including the use ~~of~~ biomaterials, scaffolds, **cells, living cells** and **external signaling** factors to develop implantable parts for the restoration, maintenance, or replacement of ~~biological~~ tissues and organs. A related topic term paper and oral presentation are expected.

Prerequisites Graduate standing.

Field Trip Statement

Credit Hours LEC: 3      LAB: 0      IND: 0      RSD: 0      Total: 3

Required for Majors No

Elective for Majors **Yes ~~No~~**

Approval Path

1. 11/14/18 9:47 am  
Greg Hilmas (ghilmas):  
Approved for RMATSENG Chair
2. 12/13/18 2:28 pm  
David Duvernell (duvernell):  
Approved for RBIOLSCI Chair
3. 12/13/18 3:39 pm  
Brittany Parnell (ershenb):  
Approved for CCC Secretary
4. 01/21/19 11:16 am  
Stephen Raper (sraper):  
Approved for Engineering DSCC Chair
5. 01/22/19 9:19 am  
Katie Shannon (shannonk):  
Approved for

Justification for change: Name and description change to more accurately describe what is currently discussed in the course.

Semesters previously offered as an experimental course

Co-Listed Courses: BIO SCI 6240 - Tissue Engineering II

Course Reviewer Comments

**sraper (12/17/18 12:19 pm):** Science DSCC suggest striking "the use" in catalog description.  
**sraper (01/14/19 3:35 pm):** changed to elective for majors.

Key: 2334

Sciences DSCC  
 Chair  
 6. 01/22/19 9:32 am  
 Brittany Parnell  
 (ershenb):  
 Approved for  
 Pending CCC  
 Agenda post  
 7. 02/07/19 2:57 pm  
 Brittany Parnell  
 (ershenb):  
 Approved for CCC  
 Meeting Agenda  
 8. 02/08/19 9:18 am  
 Stephen Raper  
 (sraper):  
 Approved for  
 Campus Curricula  
 Committee Chair

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/03/18 11:07 am

Viewing: **PET ENG 4210 : Drilling and Well Design**

File: 1260.1

Last edit: 02/08/19 11:17 am

Changes proposed by: hendrixrl

Other Courses referencing this course	<p><u>In The Prerequisites:</u></p> <p><a href="#">PET ENG 4211 : Advanced Drilling Technology</a></p> <p><a href="#">PET ENG 6211 : Advanced Directional Drilling and MWD</a></p> <p><a href="#">PET ENG 6231 : Drilling Optimization</a></p> <p><a href="#">PET ENG 6811 : Advanced Offshore Petroleum Technology</a></p>
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Requested **Fall 2019 ~~08/14/2018~~**

Effective Change Date

Department Geosciences and Geological and Petroleum Engineering

Discipline Petroleum Engineering (PET ENG)

Course Number 4210

Title Drilling and Well Design

Abbreviated Course Title Drilling and Well Design

Catalog Description	<p>This course covers drilling fluids, including mixing and analysis of rheological properties; pressure loss calculations; casing design; well cementing; pore pressure and geomechanical considerations in drilling; completion equipment; and completion design.</p>				
Prerequisites	<p>Preceded or accompanied by Civ Eng <b>2200. <del>3330.</del></b></p>				
Field Trip Statement					
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3
Required for Majors	<p><b>Yes <del>No</del></b></p> <p>No</p>				

- In Workflow
1. **RGEOSENG Chair**
  2. **CCC Secretary**
  3. **Engineering DSCC Chair**
  4. **Pending CCC Agenda post**
  5. **CCC Meeting Agenda**
  6. **Campus Curricula Committee Chair**
  7. **FS Meeting Agenda**
  8. Faculty Senate Chair
  9. Registrar
  10. CAT entry
  11. Peoplesoft

- Approval Path
1. 11/01/18 2:30 pm David Borrok (borrokd): Approved for RGEOSENG Chair
  2. 11/01/18 3:00 pm Brittany Parnell (ershenb): Approved for CCC Secretary
  3. 11/15/18 9:28 am Brittany Parnell (ershenb): Rollback to Initiator
  4. 12/03/18 12:44 pm David Borrok (borrokd): Approved for RGEOSENG Chair

<p>Elective for Majors</p>	<p>5. 12/04/18 10:49 am</p>
<p>Justification for change:                  The requested change is to eliminate the prerequisite / corequisite requirement of Civ Eng 3330 Civil Engineering Fluids. The justification is that the fundamentals of hydraulics are already covered in Pet Eng 4210 before moving on to advanced treatment of hydraulics, therefore Civ Eng 3330 is not required for the student to perform well in the class. However, Civ Eng 3330 is an important foundation course and it shall remain a required class for earning a bachelor's degree in petroleum engineering. This change approved by the Petroleum Engineering faculty in a recent faculty meeting will result in the student having additional flexibility for the timing of when to take both Civ Eng 3330 and Pet Eng 4210. The faculty believe this will have a moderate positive impact on helping students graduate in 4 years, which is a stated goal for this campus and the UM system.</p> <p>Semesters previously offered as an experimental course</p> <p>Co-Listed Courses:</p>	<p>Brittany Parnell (ershenb):                  Approved for CCC Secretary</p> <p>6. 12/17/18 12:16 pm                  Stephen Raper (sraper):                  Approved for Engineering DSCC Chair</p> <p>7. 12/17/18 1:18 pm                  Brittany Parnell (ershenb):                  Approved for Pending CCC Agenda post</p> <p>8. 02/08/19 11:18 am                  Brittany Parnell (ershenb):                  Approved for CCC Meeting Agenda</p>
<p>Course Reviewer Comments  <b>sraper (11/09/18 1:45 pm):</b> Checked Required for majors.  <b>ershenb (11/15/18 9:28 am):</b> Rollback: Rollback per the request of Dr. Flori's email.  <b>ershenb (02/08/19 11:17 am):</b> Removed the co-list Geology 4001 special topics, per the request of Dr. Flori/Dr. Raper.</p>	<p>9. 02/08/19 12:14 pm                  Stephen Raper (sraper):                  Approved for Campus Curricula Committee Chair</p>

Key: 1260

[Preview Bridge](#)

# Course Change Request

## New Experimental Course Proposal

Date Submitted: 12/06/18 1:24 pm

Viewing: **BIO SCI 4001.004 : Animal Behavior**

File: 4588

Last edit: 01/23/19 11:39 am

Changes proposed by: verbler

Requested                      Fall 2019

Effective Change

Date

Department                    Biological Sciences

Discipline                      Biological Sciences (BIO SCI)

Course Number                4001

Topic ID                        004

Experimental

Title

Animal Behavior

Experimental                    Animal Behavior

Abbreviated

Course Title

Instructors                      Robin Verble

Experimental

Catalog

Description

In Workflow

1. **RBIOLSCI Chair**
2. **CCC Secretary**
3. **Sciences DSCC  
Chair**
4. **Pending CCC  
Agenda post**
5. **CCC Meeting  
Agenda**
6. **Campus Curricula  
Committee Chair**
7. **CAT entry**
8. **Registrar**

Approval Path

1. 12/06/18 2:00 pm  
David Duvernell  
(duvernellid):  
Approved for  
RBIOLSCI Chair
2. 12/07/18 11:30  
am  
Brittany Parnell  
(ershenb):  
Approved for CCC  
Secretary
3. 01/09/19 10:20  
am  
Katie Shannon  
(shannonk):

Approved for  
Sciences DSCC  
Chair

4. 01/15/19 9:54 am

Brittany Parnell  
(ershenb):

Approved for  
Pending CCC  
Agenda post

5. 02/07/19 2:58 pm

Brittany Parnell  
(ershenb):

Approved for CCC  
Meeting Agenda

6. 02/08/19 9:18 am

Stephen Raper  
(sraper):

Approved for  
Campus Curricula  
Committee Chair

7. 02/08/19 10:04  
am

Marita Tibbetts  
(tibbettsmg):

Approved for CAT  
entry

An introduction to key concepts in Animal Behavior. Topics include communication, foraging, spatial behavior, parental care, social behaviors, the effects of environment on behavior, phenotypic plasticity, behavioral ecology, and anthropomorphism. The course will consist of lectures and laboratory exercises.

#### Prerequisites

Bio Sci 1113 or Bio Sci 1213.

#### Field Trip

#### Statement

The laboratory portion of this course will require three local field trips that will be arranged prior to the beginning of the course.

Credit Hours      LEC: 2      LAB: 1      IND: 0      RSD: 0  
Total: 3

Justification for

new course:

1--This course will increase laboratory courses offered in the Department of Biological Sciences.

2-- This course will increase the number of organismal courses offered in the Department of Biological Sciences.

3-- This course will fill a gap in current BIO SCI curriculum.

Semester(s)

previously taught

None at Missouri S&T

Co-Listed

Courses:

Course Reviewer

Comments

**ershenb (01/23/19 11:39 am):** Per the request of Dr. Shannon, changed course number from 4000 to 4001 since it is a special topics course.

Key: 4588

[Preview Bridge](#)

# Course Change Request

## New Experimental Course Proposal

Date Submitted: 12/17/18 4:04 pm

Viewing: **EXP ENG 6001.005 : Construction Blasting**

File: 4589

Last edit: 01/22/19 7:50 am

Changes proposed by: pworsey

Requested	Fall 2019
Effective Change Date	
Department	Mining & Nuclear Engineering
Discipline	Explosives Engineering (EXP ENG)
Course Number	6001
Topic ID	005
Experimental Title	Construction Blasting
Experimental Abbreviated Course Title	Construction Blasting
Instructors	Calvin Konya

Experimental Catalog Description

### In Workflow

1. **MINEXP ENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. **Campus Curricula Committee Chair**
7. **CAT entry**
8. **Registrar**
9. Peoplesoft

### Approval Path

1. 12/17/18 4:11 pm  
Kwame Awuah-Offei (kwamea):  
Approved for MINEXP ENG Chair
2. 12/17/18 4:21 pm  
Brittany Parnell (ershenb):  
Approved for CCC Secretary
3. 01/21/19 11:17 am

Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair

4. 01/22/19 7:50 am

Brittany Parnell  
(ershenb):

Approved for  
Pending CCC  
Agenda post

5. 02/07/19 2:58 pm

Brittany Parnell  
(ershenb):

Approved for CCC  
Meeting Agenda

6. 02/08/19 9:18 am

Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

7. 02/08/19 10:05  
am

Marita Tibbetts  
(tibbettsmg):  
Approved for CAT  
entry

Students will learn how to blast and design blasts specifically in the construction industry and navigate within government specifications. The course will cover current USACE and DOT specifications and how contractors can go about costing and performing under these. The final project will be preparation of a master blasting plan for a real world project.

#### Prerequisites

Graduate standing.

Field Trip

Statement

None required.

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Justification for

new course:

The course will expand the course offerings in the Explosives Engineering distance program but will also be applicable to both civil and mining engineers, as well as project/construction management under the engineering management degree programs.

Semester(s)

previously taught

N/A

Co-Listed

Courses:

Course Reviewer

Comments

**sraper (01/21/19 11:17 am):** changed wording

Key: 4589

[Preview Bridge](#)