



**Minutes of the Campus Curricula Committee Meeting**

**December 15, 2014**

**2:30 p.m., 110H Bertelsmeyer Hall**

**Attendees:** Kaylon Buckner, Petra DeWitt, Barry Flachsbart (via phone), Kristy Giacomelli, Gearoid MacSithigh, Ilene Morgan, Steve Raper, Thomas Schuman, and Paul Worsey.

The following curriculum forms were discussed and approved:

**Degree Change Forms:**

File #143.11

File #150.4

File #95.11

**Course Change Forms:**

File #4113

File #1451.1

File #4134 (Approved with File #4113)

File #439.1

File #649.1

File #1627.3

File #71.3

File #764.3

File #2454.1

File #2460.1

File #4137 (Approved with File #1302.1)

File #948.1

File #795.1

File #1944.3

File #1128.3

File #2260.1

File #1302.1

File #529.1

File #1823.1

File #1067.1

File #1145.1

File #4135

File #4095

File #4118

File #1886.1

File #1536.1

**Experimental Course Forms:**

File #4129

File #4130

File #4133

File #4125

File #4123

File #4136

File #4127

File #4128

File #4102

File #4139

File #4140

The meeting adjourned at 4:15 p.m.



A handwritten signature in blue ink, appearing to read "Thomas Schuman", written over a horizontal line.

Thomas Schuman, Chair  
Missouri S&T Campus Curricula Committee

## Program Change Request

Date Submitted: 10/08/14 4:21 pm

Viewing: **ARC ENG-BS : Architectural Engineering BS**

File: 143.11

Last approved: 08/04/14 11:58 am

Last edit: 10/08/14 4:21 pm

Changes proposed by: baur

Catalog Pages [Architectural Engineering](#)  
Using this  
Program

Start Term **Fall 2015** ~~8/1/2014~~

Program Code ARC ENG-BS

Department Civil, Architectural, and Environmental Engineering

Title Architectural Engineering BS

## Program Requirements and Description

### Architectural Engineering Bachelor of Science

Entering freshmen desiring to study Architectural Engineering will be admitted to the Freshman Engineering Program. They will, however, be permitted, if they wish, to state a Architectural Engineering preference, which will be used as a consideration for available freshman departmental scholarships. The focus of the Freshman Engineering program is on enhanced advising and career counseling, with the goal of providing to the student the information necessary to make an informed decision regarding the choice of a major.

For the Bachelor of Science degree in Architectural Engineering a minimum of 128 credit hours is required. These requirements are in addition to credit received for algebra, trigonometry, and basic ROTC courses. An average of at least two grade points per credit hour must be attained. At least two grade points per credit hour must also be attained in all courses taken in Architectural Engineering.

Each student's program of study must contain a minimum of 21 credit hours of course work in general education and must be chosen according to the following rules:

1. All students are required to take one American history course, one economics course, one humanities course, and [ENGLISH 1120](#). The history course is to be selected from [HISTORY 1200](#) (preferred), [HISTORY 1300](#), or [HISTORY 1310](#). The economics course may be either [ECON 1100](#) or [ECON 1200](#). The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.
2. Depth requirement. Three credit hours must be taken in humanities or social sciences at the 2000-level or above and must be selected from "The Approved List of Humanities and Social Science Courses for Engineering Degrees" maintained by the Office of Undergraduate Studies. This course must have as a prerequisite one of the humanities or social sciences courses already taken. Foreign language courses numbered 1180 will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000-level. All courses taken to satisfy the depth requirement must be taken after graduating from high school.
3. The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to [ENGLISH 1120](#).
4. Any specific departmental requirements in the general studies area must be satisfied.
5. Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chair.

The Architectural Engineering program at Missouri S&T is characterized by its focus on the scientific basics of engineering and its innovative application; indeed, the underlying theme of this educational program is the application of the scientific basics to engineering practice through attention to problems and needs of the public. The necessary interrelations among the various topics, the engineering disciplines, and the other professions as they naturally come together in the solution of real world problems are emphasized as research, analysis, synthesis, and design are presented and discussed through classroom and laboratory instruction.

### Free Elective Footnote:

Each student is required to take three hours of free elective in consultation with his/her academic advisor. Credits which do not count towards this requirement are deficiency courses (such as algebra and trigonometry), and extra credits in required courses. Any courses outside of Engineering and Science must be at least three credit hours.

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM 1100</a>	1	<a href="#">MATH 1215</a>	4

### In Workflow

1. [RCIVILEN 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 Chair](#)
8. [Faculty Senate Chair](#)
9. [Registrar](#)
10. [juliep](#)

### Approval Path

1. 10/18/14 9:20 am  
wschon: Approved for RCIVILEN Chair
2. 10/20/14 8:19 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 1:53 pm  
srapr: Approved for Engineering DSCC Chair

### History

1. Sep 27, 2013 by [lahne](#)
2. Sep 27, 2013 by [lahne](#)
3. Apr 28, 2014 by [lahne](#)
4. Aug 4, 2014 by [pantaleoa](#)

<a href="#">FR ENG 1100</a> <sup>2</sup>	1	General Ed Elective <sup>1</sup>	3
<a href="#">MATH 1214</a>	4	<a href="#">MECH ENG 1720</a>	3
<a href="#">ENGLISH 1120</a>	3	<a href="#">PHYSICS 1135</a>	4
General Ed Elective <sup>1</sup>	3		
<a href="#">CHEM 1310</a> & <a href="#">CHEM 1319</a>	5		
	17		14
<b>Sophomore Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<a href="#">CIV ENG 2200</a> <sup>2</sup>	3	<a href="#">STAT 3113</a>	3
<a href="#">MATH 2222</a>	4	<a href="#">CIV ENG 2210</a> <sup>2</sup>	3
<a href="#">PHYSICS 2135</a>	4	<a href="#">CIV ENG 2211</a>	1
<a href="#">ARCH ENG 2003</a>	2	<a href="#">ARCH ENG 2103</a>	3
<a href="#">CIV ENG 2401</a> <sup>2</sup>	3	<a href="#">ART 3203</a>	3
		<a href="#">MATH 3304</a>	3
		<a href="#">MECH ENG 2350</a>	2
	16		18
<b>Junior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<a href="#">ARCH ENG 3201</a> <sup>2</sup>	3	<a href="#">ARCH ENG 3805</a>	3
<a href="#">CIV ENG 3330</a> <sup>2</sup>	3	<a href="#">ARCH ENG 5872</a>	3
<a href="#">ELEC ENG 2800</a>	3	<a href="#">CIV ENG 3116</a>	3
<a href="#">MECH ENG 2527</a>	3	<a href="#">HISTORY 2510</a>	3
<a href="#">ARCH ENG 3804</a>	3	<a href="#">ARCH ENG 3220</a>	3
<a href="#">CIV ENG 3715</a>	3		
	18		15
<b>Senior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<a href="#">ARCH ENG 4010</a>	1	<a href="#">ARCH ENG 4097</a>	3
<a href="#">ARCH ENG 3210</a>	3	ARCH ENG Technical Elective <sup>3,4</sup>	3
<a href="#">ARCH ENG 4448</a>	3	<a href="#">CIV ENG 4729</a>	3
<a href="#">HISTORY 3550</a>	3	General Education Elective <sup>1</sup>	3
ARCH ENG Technical Elective <sup>3,4</sup>	3	Basic Science Elective <sup>5</sup>	3
<a href="#">ENG MGT 1210</a>	2		
	15		15
Total Credits: 128			

<sup>1</sup> All general education electives must be approved by the student's advisor. Students must comply with the general education requirements with respect to selection and depth of study. These requirements are specified in the current catalog.

<sup>2</sup> A grade of 'C' or better required to satisfy graduation requirements.

<sup>3</sup> A grade of 'C' or better may be required in ARCH ENG technical elective prerequisite courses. Refer to the Missouri S&T undergraduate catalog for this prerequisite information.

<sup>4</sup> Choose technical electives from approved lists under Emphasis Areas for Architectural Engineering Students. A maximum of 3 credits of independent study ([ARCH ENG 5000](#) or [ARCH ENG 4099](#)) may be used as a technical elective. Additional independent study course may be taken but will not count towards the B.S. Architectural Engineering degree.

<sup>5</sup> Each student is required to take three hours of basic science electives in consultation with his/her academic advisor. A list of basic science courses is provided in the advising office in BCH 119.

**Note:** All Architectural Engineering students must take the Fundamentals of Engineering examination prior to graduation. A passing grade on this examination is not required to earn a B.S. degree, however, it is the first step toward becoming a registered professional engineer. This requirement is part of the Missouri S&T assessment process as described in Assessment Requirements found elsewhere in this catalog. Students must sign a release form giving the University access to their Fundamentals of Engineering Examination score.

## Emphasis Areas and Course Listings by Area for Architectural Engineering Students

### Area I, Structural Engineering

<a href="#">ARCH ENG 5001</a>	Special Topics	6
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<a href="#">ARCH ENG 5203</a>	Applied Mechanics In Structural Engineering	3
<a href="#">ARCH ENG 5205</a>	Structural Analysis II	3
<a href="#">ARCH ENG 5260</a>	Analysis And Design Of Wood Structures	3
<a href="#">ARCH ENG 5207</a>	Computer Methods of Structural Analysis	3
<a href="#">ARCH ENG 5210</a>	Advanced Steel Structures Design	3
<a href="#">ARCH ENG 5220</a>	Advanced Concrete Structures Design	3
<a href="#">ARCH ENG 5222</a>	Prestressed Concrete Design	3
<a href="#">ARCH ENG 5729</a>	Foundation Engineering II	3
<a href="#">ARCH ENG 5231</a>	Infrastructure Strengthening with Composites	3
<a href="#">ARCH ENG 5206</a>	Low-Rise Building Analysis And Design	3
<a href="#">ARCH ENG 5208</a>	Structural Dynamics	3

## Area II, Construction Engineering and Project Management

<a href="#">ARCH ENG 5442</a>	Construction Planning and Scheduling Strategies	3
<a href="#">ARCH ENG 5445</a>	Construction Methods	3
<a href="#">ARCH ENG 5446</a>	Management Of Construction Costs	3
<a href="#">ARCH ENG 5448</a>	Green Engineering: Analysis of Constructed Facilities	3
<a href="#">ARCH ENG 5449</a>	Engineering and Construction Contract Specifications	3
<a href="#">ENG MGT 5110</a>	Managerial Decision Making	3
<a href="#">ENG MGT 5613</a>	Value Analysis	3
<a href="#">ENG MGT 5711</a>	Total Quality Management	3

## Area III, Environmental Systems for Buildings

<a href="#">ARCH ENG 5001</a>	Special Topics	0-6
<a href="#">ARCH ENG 5642</a>	Sustainability, Population, Energy, Water, and Materials	3
<a href="#">ARCH ENG 5665</a>	Indoor Air Pollution	3
<a href="#">ARCH ENG 5850</a>	Residential Renewable Energy Systems	3
<a href="#">ENG MGT 5513</a>	Energy and Sustainability Management Engineering	3

## Mechanical Emphasis Courses

<a href="#">MECH ENG 5309</a>	Engineering Acoustics I	3
<a href="#">MECH ENG 5566</a>	Solar Energy Technology	3
<a href="#">MECH ENG 5575</a>	Mechanical Systems For Environmental Control	3

## Electrical Emphasis Courses

<a href="#">ELEC ENG 3340</a>	Controllers For Factory Automation	3
<a href="#">ELEC ENG 5150</a>	Photovoltaic Systems Engineering	3
<a href="#">COMP ENG 2210</a> & <a href="#">COMP ENG 2211</a>	Introduction to Digital Logic and Computer Engineering Laboratory	4

## Area IV, Construction Materials

<a href="#">ARCH ENG 5203</a>	Applied Mechanics In Structural Engineering	3
<a href="#">CIV ENG 5113</a>	Composition And Properties Of Concrete	3
<a href="#">CIV ENG 5118</a>	Smart Materials And Sensors	3
<a href="#">CIV ENG 5156</a>	Concrete Pavement Design	3
<a href="#">CER ENG 5810</a>	Principles Of Engineering Materials	3

## Architectural Engineering Courses

<a href="#">ARCH ENG 2103</a>	Architectural Materials And Methods Of Construction	3
<a href="#">ARCH ENG 3804</a>	Architectural Design II	3
<a href="#">ARCH ENG 3805</a>	Building Electrical and Lighting Systems	3
<a href="#">ART 3203</a>	Architectural Design I	3

## Architectural Engineering Courses (cross-list with existing civil engineering courses)

<a href="#">ARCH ENG 2003</a>	Engineering Communications	2
<a href="#">ARCH ENG 2001</a>	Special Topics	0-6
<a href="#">ARCH ENG 3000</a>	Special Problems	1-6
<a href="#">ARCH ENG 3001</a>	Special Topics	0-6
<a href="#">ARCH ENG 2002</a>	Cooperative Engineering Training	1
<a href="#">ARCH ENG 4010</a>	Senior Seminar: Engineering In A Global Society	1
<a href="#">ARCH ENG 3201</a>	Structural Analysis I	3
<a href="#">ARCH ENG 3210</a>	Structural Design In Metals	3
<a href="#">ARCH ENG 3220</a>	Reinforced Concrete Design	3
<a href="#">ARCH ENG 4447</a>	Ethical, Legal And Professional Engineering Practice	2
<a href="#">ARCH ENG 4448</a>	Fundamentals Of Contracts And Construction Engineering	3
<a href="#">ARCH ENG 4097</a>	Senior Design Project	3
<a href="#">ARCH ENG 5000</a>	Special Problems	6
<a href="#">ARCH ENG 5001</a>	Special Topics	6
<a href="#">ARCH ENG 5205</a>	Structural Analysis II	3
<a href="#">ARCH ENG 5260</a>	Analysis And Design Of Wood Structures	3
<a href="#">ARCH ENG 5207</a>	Computer Methods of Structural Analysis	3
<a href="#">ARCH ENG 5210</a>	Advanced Steel Structures Design	3
<a href="#">ARCH ENG 5220</a>	Advanced Concrete Structures Design	3
<a href="#">ARCH ENG 5222</a>	Prestressed Concrete Design	3
<a href="#">ARCH ENG 5445</a>	Construction Methods	3
<a href="#">ARCH ENG 5446</a>	Management Of Construction Costs	3
<a href="#">ARCH ENG 5449</a>	Engineering and Construction Contract Specifications	3
<a href="#">ARCH ENG 5231</a>	Infrastructure Strengthening with Composites	3
<a href="#">ARCH ENG 4099</a>	Undergraduate Research	6

### Civil Engineering Courses (required courses, emphasis area, and/or technical electives)

<a href="#">CIV ENG 3715</a>	Fundamentals of Geotechnical Engineering	3
<a href="#">CIV ENG 3116</a>	Construction Materials, Properties And Testing	3
<a href="#">CIV ENG 4729</a>	Foundation Engineering	3
<a href="#">CIV ENG 3330</a>	Engineering Fluid Mechanics	3
<a href="#">CIV ENG 5113</a>	Composition And Properties Of Concrete	3
<a href="#">CIV ENG 5117</a>	Asphalt Pavement Design	3
<a href="#">CIV ENG 5729</a>	Foundation Engineering II	3
<a href="#">CIV ENG 5441</a>	Professional Aspects Of Engineering Practice	3
<a href="#">CIV ENG 5445</a>	Construction Methods	3
<a href="#">CIV ENG 5446</a>	Management Of Construction Costs	3
<a href="#">CIV ENG 5449</a>	Engineering and Construction Contract Specifications	3

Justification for request

ABET requires 32 credit hours of basic science and math. It was noted by the ABET program evaluator that Chem 1100 (formerly Chem 4) may not meet the basic science elective. As such this action was taken to remove any future concerns. Attach is a list of what has been deemed basic science courses according to ABET.

Supporting Documents

[Possible Basic Science Courses.docx](#)

Course Reviewer Comments

## Program Change Request

Date Submitted: 10/22/14 1:23 pm

Viewing: **CH ENG-BS : Chemical Engineering BS**

File: 150.4

Last approved: 05/02/14 3:49 pm

Last edit: 12/16/14 8:03 am

Changes proposed by: kleb6b

Catalog Pages Using this Program	<u>Chemical &amp; Biochemical Engineering</u>
Start Term	<b>Fall 2015</b> <del>8/15/2014</del>
Program Code	CH ENG-BS
Department	Chemical and Biochemical Engineering
Title	Chemical Engineering BS

## Program Requirements and Description

### Bachelor of Science Chemical Engineering

Entering freshmen desiring to study Chemical Engineering will be admitted to the Freshman Engineering Program. They will be permitted, if they wish, to state a Chemical Engineering preference, which will be used as a consideration for available freshman departmental scholarships. The focus of the Freshman Engineering program is on enhanced advising and career counseling, with the goal of providing to the student the information necessary to make an informed decision regarding the choice of a major.

For the Bachelor of Science degree in Chemical Engineering a minimum of **129** ~~128~~ credit hours is required. These requirements are in addition to credit received for algebra, trigonometry and basic ROTC courses. An average of at least two grade points per credit hour must be attained. At least two grade points per credit hour must also be attained in all courses taken in Chemical Engineering.

Each student's program of study must contain a minimum of 21 credit hours of course work in general education and must be chosen according to the following rules:

1. All students are required to take one American history course, one economics course, one humanities course, and undefined . The history course is to be selected from undefined , undefined , undefined , or undefined . The economics course may be either undefined or undefined . The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.
2. Depth requirement. Three credit hours must be taken in humanities or social sciences at the **1000** ~~100~~-level or above and must be selected from the approved list. This course must have as a prerequisite one of the humanities or social sciences courses already taken. Foreign language courses numbered **1180** ~~70-or-80~~ will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the **3000 level or above**. ~~300-level~~. All courses taken to satisfy the depth requirement must be taken after graduating from high school.
3. The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to undefined .
4. Any specific departmental requirements in the general studies area must be satisfied.
5. Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

The Chemical Engineering program at Missouri S&T is characterized by its focus on the scientific basics of engineering and its innovative application; indeed, the underlying theme of this educational program is the application of the scientific basics to engineering practice through attention to problems and needs of the public.

### 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. josephj
11. juliep
12. pantaleoa

### Approval Path

1. 10/24/14 10:07 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 10/24/14 10:25 am  
kleb6b: Approved  
for CCC Secretary
3. 11/07/14 4:05 pm  
kleb6b: Approved  
for Engineering  
DSCC Chair
4. 11/07/14 4:05 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post
5. 11/20/14 11:17 am  
kleb6b: Approved  
for CCC Meeting  
Agenda
6. 11/20/14 11:19 am  
kleb6b: Rollback to  
CCC Meeting  
Agenda for Campus  
Curricula  
Committee Chair

### History

1. Mar 18, 2014 by  
lahne
2. May 2, 2014 by  
lahne

The necessary interrelations among the various topics, the engineering disciplines, and the other professions as they naturally come together in the solution of real world problems are emphasized as research, analysis, synthesis, and design are presented and discussed through classroom and laboratory instruction.

### Free Electives Footnote:

Free electives. Each student is required to take six hours of free electives in consultation with his/her academic advisor. Credits which do not count towards this requirement are deficiency courses (such as algebra and trigonometry) and extra credits in required courses. Any courses outside of engineering and science must be at least three credit hours.

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">FR ENG 1100</a>	1	<a href="#">MECH ENG 1720</a>	3
<a href="#">CHEM 1310</a>	4	<a href="#">CHEM ENG 1100</a> , or <a href="#">COMP SCI 1970</a> <b>and</b> <a href="#">COMP SCI 1980</a> , or <a href="#">COMP SCI 1971</a> <b>and</b> <a href="#">COMP SCI 1981</a> , or <a href="#">COMP SCI 1570</a> <b>and</b> <a href="#">COMP SCI 1580</a>	3
<a href="#">CHEM 1319</a>	1	<a href="#">CHEM 1320</a>	3
<a href="#">ENGLISH 1120</a>	3	<a href="#">MATH 1215</a>	4
<a href="#">HISTORY 1200</a> , or <a href="#">1300</a> , or <a href="#">1310</a> , or <a href="#">POL SCI 1200</a>	3	<a href="#">PHYSICS 1135</a>	4
<a href="#">MATH 1214</a>	4		
	16		17
Sophomore Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM ENG 2100</a> <sup>1</sup>	3	<a href="#">CHEM ENG 2310</a> <sup>4</sup>	1
<a href="#">CHEM 2210</a>	4	<a href="#">CHEM ENG 2110</a> <sup>1</sup>	3
<a href="#">ECON 1100</a> or <a href="#">1200</a>	3	<a href="#">CHEM ENG 2300</a>	3
<a href="#">MATH 2222</a>	4	Humanities or Social Science Electives <sup>2</sup>	3
<a href="#">PHYSICS 2135</a>	4	Humanities or Social Science Elective <sup>2</sup>	3
		<a href="#">MATH 3304</a>	3
	18		16
Junior Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM ENG 3100</a>	3	<a href="#">CHEM ENG 4100</a> <sup>4</sup>	2
<a href="#">CHEM ENG 3110</a>	2	<a href="#">CHEM ENG 3130</a>	3
<a href="#">CHEM ENG 3120</a>	3	<a href="#">CHEM ENG 3140</a>	3
<a href="#">CHEM 3410</a>	3	<a href="#">CHEM ENG 3160</a>	3
Humanities or Social Science Elective <sup>2</sup>	3	Chem & Lab Elective <sup>5</sup>	4
Humanities or Social Science Elective <sup>2</sup>	3		
	17		15
Senior Year <sup>3</sup>			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM ENG 4130</a> <sup>4</sup>	3	<a href="#">CHEM ENG 4096</a>	2
<a href="#">CHEM ENG 4110</a>	3	<a href="#">CHEM ENG 4140</a>	3
<a href="#">CHEM ENG 4120</a> <sup>4</sup>	1	<a href="#">CHEM ENG 4097</a> <sup>4</sup>	3
<a href="#">CHEM ENG 3150</a>	3	CHEM ENG 5XXX-Chem Eng Elective <sup>7</sup>	3
CHEM ENG 5XXX-Chem Eng Elective <sup>7</sup>	3	Free Electives <sup>8</sup>	3
Free Electives <sup>8</sup>	3		
	16		14
Total Credits: 129			



**Note:** The minimum number of hours required for a degree in Chemical Engineering is **129**. ~~128~~.

A cumulative grade point average of 2.25 or better is required for admittance as a chemical engineering major.

1	A grade of "C" or better is required to meet chemical engineering degree requirements.
2	From approved list published on the website of Undergraduate Studies. The prerequisites for the upper level course must be completed with a passing grade.
3	Prior to graduation, all chemical engineering majors must take the Fundamentals of Engineering exam (See Assessment Requirements, Major Field). A passing grade is not required to earn a degree, however it is the first step toward becoming a registered professional engineer.
4	Communications emphasized course (See Bachelor of Science Degree, General Education Communications Requirement).
5	undefined and undefined are 4 credits total.
6	undefined or undefined and undefined or undefined and undefined or undefined and undefined or undefined and undefined. undefined and undefined are 5 credits total.
7	Any CHEM ENG 5XXX class, undefined, undefined, undefined, or undefined but only one of undefined, undefined or CHEM ENG 4099H can be used to fulfill this requirement.
8	Each student is required to take six hours of free electives in consultation with his/her academic advisor. Credits which do not count towards this requirement are deficiency courses (such as algebra and trigonometry), and extra credits in required courses. Any courses outside of Engineering and Science must be at least three credit hours. undefined recommended for preparation for Fundamentals of Engineering exam.

## Chemical Engineering Biochemical Engineering Emphasis

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">FR ENG 1100</a>	1	<a href="#">MECH ENG 1720</a>	3
<a href="#">CHEM 1310</a>	4	<a href="#">CHEM ENG 1100</a> , or <a href="#">COMP SCI 1970</a> <b>and</b> <a href="#">COMP SCI 1980</a> , or <a href="#">COMP SCI 1971</a> <b>and</b> <a href="#">COMP SCI 1981</a> , or <a href="#">COMP SCI 1570</a> <b>and</b> <a href="#">COMP SCI 1580</a> <sup>5</sup>	3
<a href="#">CHEM 1319</a>	1	<a href="#">CHEM 1320</a>	3
<a href="#">ENGLISH 1120</a>	3	<a href="#">MATH 1215</a>	4
<a href="#">HISTORY 1200</a> , or <a href="#">1300</a> , or <a href="#">1310</a> , or <a href="#">POL SCI 1200</a>	3	<a href="#">PHYSICS 1135</a>	4
<a href="#">MATH 1214</a>	4		
	16		17
Sophomore Year			
First Semester	Credits	Second Semester	Credits
<a href="#">BIO SCI 2213</a>	3	<a href="#">BIO SCI 3313</a>	3
<a href="#">BIO SCI 2219</a>	1	<a href="#">BIO SCI 3319</a>	2
<a href="#">CHEM ENG 2100</a> <sup>1</sup>	3	<a href="#">CHEM ENG 2110</a> <sup>1</sup>	3
<a href="#">CHEM 2210</a>	4	<a href="#">CHEM ENG 2300</a>	3
<a href="#">MATH 2222</a>	4	<a href="#">CHEM 2220</a>	4
<a href="#">PHYSICS 2135</a>	4	<a href="#">CHEM 2289</a>	1
		<a href="#">MATH 3304</a>	3
	19		19
Junior Year			
First Semester	Credits	Second Semester	Credits
<a href="#">BIO SCI 4323</a>	3	<a href="#">CHEM ENG 2310</a> <sup>4</sup>	1
<a href="#">BIO SCI 4329</a>	2	<a href="#">CHEM ENG 3130</a>	3
<a href="#">CHEM ENG 3100</a>	3	<a href="#">CHEM ENG 3160</a>	3
<a href="#">CHEM ENG 3110</a>	2	<a href="#">CHEM ENG 3200</a>	3
<a href="#">CHEM ENG 3120</a>	3	<a href="#">ECON 1100</a> or <a href="#">1200</a>	3

<a href="#">CHEM 3410</a>	3	General Education Elective <sup>2</sup>	3
	16		16
<b>Senior Year<sup>3</sup></b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<a href="#">CHEM ENG 4110</a>	3	<a href="#">CHEM ENG 4096</a>	2
<a href="#">CHEM ENG 4120<sup>4</sup></a>	1	<a href="#">CHEM ENG 4210</a>	3
<a href="#">CHEM ENG 4200<sup>4</sup></a>	2	<a href="#">CHEM ENG 4220<sup>4</sup></a>	3
<a href="#">CHEM ENG 3150</a>	3	<a href="#">CHEM ENG 4097<sup>4</sup></a>	3
<b>General-Ed Upper-Level Electives<sup>5</sup></b>	<b>3</b>	General Education Elective <sup>2</sup>	3
<b>General Education Elective<sup>2</sup></b>	<b>3</b>		
General Education Upper Level Elective <sup>2</sup>	3		
	15		14
Total Credits: 132			

**Note:** The minimum number of hours required for a degree in Chemical Engineering **with an emphasis in Biochemical Engineering** is **132. 130.**

A cumulative grade point average of 2.25 or better is required for admittance as a chemical engineering major.

<sup>1</sup>	A grade of "C" or better is required to meet chemical engineering degree requirements.
<sup>2</sup>	From approved list posted on the website of Undergraduate Studies. The prerequisites for the upper level course must be completed with a passing grade.
<sup>3</sup>	Prior to graduation, all chemical engineering majors must take the Fundamentals of Engineering exam (See Assessment Requirements, Major Field). A passing grade is not required to earn a degree, however, it is the first step toward becoming a registered professional engineer.
<sup>4</sup>	Communications emphasized course (See Bachelor of Science Degree, General Education Communications Requirement).
<sup>5</sup>	undefined and undefined are 4 credits total.

Justification for request

Deleted subscript 1 from all Chem Eng courses except Chem Eng 2100 & Chem Eng 2110 per faculty meeting minutes and vote of April 9, 2014.

June 17, 2014 - Corrected foreign language numbers, changed 3XX to 3XXX references and changed explanation of total hours at 130 for Chemical Engineering degree with a Biochemical Emphasis. Marlene Albrecht

Supporting Documents

Course Reviewer Comments

**sraper (06/13/14 10:08 am):** Rollback: There are foreign language numbers need to be changed, there are 3xx, rather than 3xxx references, and you have 128 hours in two places, and 130 in another place.

**kleb6b (06/13/14 10:10 am):** Rollback: Rollback: There are foreign language numbers need to be changed, there are 3xx, rather than 3xxx references, and you have 128 hours in two places, and 130 in another place.

**kleb6b (07/07/14 9:21 am):** Change effective date to Fall 2015

**sraper (07/16/14 10:30 am):** at the CCC meeting, or before, the two foreign language numbers need to be changed. There are still 3xx references that should be changed to 3xxx.

**kleb6b (08/22/14 12:12 pm):** Changed foreign language reference to 70 or 80 to 1180.

**kleb6b (08/22/14 12:14 pm):** Rollback: the two foreign language numbers need to be changed. There are still 3xx references that should be changed to 3xxx. Also, in Program Requirements and Description, #2 references 1000 level and above and 3000 level. Are these correct?

**kleb6b (09/09/14 8:53 am):** Rollback: Rollback  
**kleb6b (09/09/14 10:55 am):** Edit Footnote 7  
**kleb6b (10/22/14 1:22 pm):** Rollback: Rollback  
**kleb6b (11/05/14 9:51 am):** Edit Footnote  
**sraper (11/07/14 1:03 pm):** Changed minimum hour counts to match curriculum.  
128/129, and 130/132.  
**kleb6b (11/07/14 1:16 pm):** Changes per Steve Raper  
**kleb6b (11/07/14 1:17 pm):** Correct Footnote  
**kleb6b (11/20/14 11:19 am):** Rollback: Rollback  
**kleb6b (12/16/14 8:03 am):** Changes per CCC Meeting 12/15/14

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Key: 150

## Program Change Request

Date Submitted: 10/21/14 8:22 am

Viewing: **MI ENG-BS : Mining Engineering BS**

File: 95.11

Last approved: 04/28/14 2:13 pm

Last edit: 12/16/14 8:05 am

Changes proposed by: cifarellit

Catalog Pages Using this Program	<a href="#">Mining Engineering</a>
Start Term	8/1/2014
Program Code	MI ENG-BS
Department	Mining & Nuclear Engineering
Title	Mining Engineering BS

## Program Requirements and Description

### Bachelor of Science Mining Engineering

Entering freshmen desiring to study Mining Engineering will be admitted to the Freshman Engineering Program. They will, however, be permitted, if they wish, to state a Mining Engineering preference, which will be used as a consideration for available freshman departmental scholarships. The focus of the Freshman Engineering program is on **fundamental sciences enhanced advising and mathematics, enhanced advising and** career counseling, with the goal of providing to the student the information necessary to make an informed decision regarding the choice of a **major. In addition, students who state the Mining Engineering preference are required to complete Mining Engineering 2126 during the first or second semester on campus. major.**

For the Bachelor of Science degree in Mining Engineering a minimum of 128 credit hours is required. These requirements are in addition to credit received for algebra, trigonometry, and basic ROTC courses. A student must maintain at least two grade points per credit hour for all courses taken in the student's major department, and an average of at least two grade points per credit hour must be maintained in Mining Engineering.

Each student's program of study must contain a minimum of **21 18**-credit hours of course work **in general education from the humanities and must the social sciences areas and should** be chosen according to the following rules:

1. All students are required to take one American history **course, course-and** one economics **course, one humanities course and undefined. course-** The history course is to be selected from undefined , undefined , or undefined . The economics course may be either undefined or undefined . **The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.**
2. Of the remaining hours, six credit hours must be taken in humanities or social sciences at the 2000 level or above and must be selected from the approved lists. Each of these courses must have as a prerequisite one of the humanities or social sciences courses already taken. Foreign language courses can be considered to be one of these courses. (Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000 or 5000 level.)
3. Some departments list specific requirements; e.g., a psychology course, a literature course, and/or a second semester of economics. Selections should be made to ensure that these requirements are met.
4. Special topics, special problems courses and honors seminars are allowed only by petition to and approval by the student's department chairman.

The Mining Engineering program at Missouri S&T is characterized by its focus on the scientific basics of engineering and its innovative application; indeed, the underlying theme of this educational program is the application of the scientific basics to engineering practice through attention to problems and needs of the public.

### In Workflow

1. RMINNUCL 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. josephj
11. juliep
12. pantaleoa

### Approval Path

1. 10/21/14 8:38 am  
frimpong: Approved for RMINNUCL Chair
2. 10/21/14 8:39 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:01 pm  
srafer: Approved for Engineering DSCC Chair
4. 11/05/14 3:47 pm  
kleb6b: Approved for Pending CCC Agenda post

### History

1. Apr 28, 2014 by  
kabp3

The necessary interrelations among the various topics, the engineering disciplines, and the other professions as they naturally come together in the solution of real world problems are emphasized as research, analysis, synthesis, and design are presented and discussed through classroom and laboratory instruction.

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM 1310</a>	4	<a href="#">MATH 1215</a>	4
<a href="#">CHEM 1319</a>	1	<a href="#">PHYSICS 1135</a>	4
<a href="#">FR ENG 1100</a>	1	<a href="#">MECH ENG 1720</a>	3
<a href="#">MATH 1214</a>	4	<a href="#">MIN ENG 1912</a>	1
<b>General Education Elective<sup>1,1</sup></b>	<b>3</b>	<a href="#">MIN ENG 2126</a>	1
<a href="#">GEO ENG 1150</a>	3	<a href="#">GEOLOGY 2611</a>	3
<a href="#">HISTORY 1200, or 1300, or 1310, or POL SCI 1200</a>	<b>3</b>	<b>General Education Elective<sup>1,2</sup></b>	<b>3</b>
<a href="#">CHEM 1100</a>	1		
	17		19
Sophomore Year			
First Semester	Credits	Second Semester	Credits
<a href="#">MIN ENG 3912</a>	3	<a href="#">ENGLISH 1120</a>	<b>3</b>
<b>General Education Elective<sup>1,3</sup></b>	<b>3</b>	<a href="#">PHYSICS 2135</a>	4
<a href="#">MATH 2222</a>	4	<a href="#">MECH ENG 2340</a>	3
<a href="#">GEOLOGY 3310</a>	3	<a href="#">MATH 3304</a>	3
<a href="#">EGON 1100 or 1200</a>	<b>3</b>	<a href="#">MIN ENG 2924</a>	<b>3</b>
<a href="#">MIN ENG 2914</a>	<b>3</b>	<a href="#">CHEM 3410</a>	<b>3</b>
<a href="#">GEOLOGY 3319</a>	1	<b>General Education Elective<sup>1,4</sup></b>	<b>3</b>
<a href="#">MIN ENG 2925</a>	2		
	16		16
Junior Year			
First Semester	Credits	Second Semester	Credits
<a href="#">MIN ENG 3913</a>	3	<a href="#">MIN ENG 4522</a>	<b>3</b>
<a href="#">ENGLISH 1600</a>	<b>3</b>	<a href="#">MIN ENG 4113</a>	3
<a href="#">CIV ENG 2210</a>	<b>3</b>	<a href="#">Human/Soe Sc<sup>1</sup></a>	<b>3</b>
<a href="#">CIV ENG 3330</a>	3	<a href="#">MIN ENG 4932</a>	3
<a href="#">MIN ENG 3412</a>	<b>3</b>	<a href="#">MIN ENG 4933</a>	3
<a href="#">STAT 3113</a>	3	<a href="#">MIN ENG 3412</a>	<b>3</b>
<a href="#">Human/Soe Sc<sup>1</sup></a>	<b>3</b>	<a href="#">MIN ENG 4823</a>	3
<b>General Education Elective<sup>1,5</sup></b>	<b>3</b>		
	18		15
Senior Year			
First Semester	Credits	Second Semester	Credits
<a href="#">MIN ENG 5612</a>	3	<a href="#">MIN ENG 4742</a>	3
<a href="#">MIN ENG 4912</a>	3	<a href="#">MIN ENG 4097<sup>8</sup></a>	4
<a href="#">MIN ENG 4512<sup>8</sup></a>	<b>2</b>	<a href="#">Human/Soe Sc<sup>1</sup></a>	<b>3</b>
<a href="#">MIN ENG 4824</a>	2	Technical Elective <sup>2,3,4,5,6,7</sup>	3
<b>General Education Elective<sup>1,6</sup></b>	<b>3</b>	<b>General Education Elective<sup>1,7</sup></b>	<b>3</b>
<a href="#">MIN ENG 4096<sup>8</sup></a>	<b>3</b>		
<a href="#">Technical Elective<sup>2,3,4,5,6,7</sup></a>	<b>3</b>		
	14		13

Total Credits: 128

- <sup>1</sup> **General Education Electives (GECs):** The curriculum contains 21 GEC hours. <sup>1,1</sup>Must be either undefined, undefined, undefined or undefined; <sup>1,2</sup>Must be undefined; <sup>1,3</sup>Must be either undefined or undefined; <sup>1,4</sup>Must be undefined; <sup>1,5</sup>Must focus on economics of large enterprise, such as undefined or undefined; <sup>1,6</sup>Must focus on challenges of managing and/or leading industrial organizations, such as undefined, undefined or undefined; <sup>1,7</sup>Humanities or Social Science elective.
- <sup>2</sup> **Explosives Engineering Emphasis:** undefined (Blasting Tech) and either undefined (Special Topics Explosives), undefined (Undergraduate Research in Explosives), undefined (Rock Mechanics) or undefined (Tunneling/Construction) have to be taken as Technical Electives.
- <sup>3</sup> **Quarrying Emphasis:** Two of undefined (Construction Materials); undefined (Advanced Aggregate and Quarrying); and undefined (Aggregate Materials) have to be taken as Technical Electives.
- <sup>4</sup> **Coal Emphasis:** Two of undefined (Coal Mine Development and Production), undefined (Mine Plant Management) or an approved substitute course must be taken as Technical Electives.
- <sup>5</sup> **Mining and the Environment Emphasis:** undefined (Environmental Geological Engineering) and undefined (Risk Assessment in Environmental Studies), or approved substitute courses have to be taken as Technical Electives.
- <sup>6</sup> **Mining Health and Safety Emphasis:** undefined (Mine Rescue), undefined (Human Factors), or other approved substitute courses must be taken as Technical Electives.
- <sup>7</sup> **Sustainable Development Emphasis:** undefined (Public Policy Analysis), undefined (Environmental and Natural Resource Economics), or other approved substitute courses must be taken as Technical Electives.
- <sup>8</sup> Mining courses in *italics* are offered every semester.

## Graduating Mining Engineers Examination

Mining engineering students must complete the Graduating Mining Engineers (GME) Examination prior to graduation as a senior assessment requirement. A passing grade on this examination is required to earn a B.S. degree in mining engineering. The GME Examination comprises the Surface Mining Engineering (SME) and Underground Mining Engineering (UME) Examinations. The SME Exam focuses on undefined, undefined, undefined, undefined, undefined, and undefined. The UME Exam focuses on undefined, undefined, undefined, undefined, and undefined.

Mining engineering students are required to pass the GME Exam in order to graduate. The GME Exam will be graded with Pass or Fail designation. A mark below 50% will be assigned a failing grade and a mark of 85% or above will be a Pass with Distinction. Graduating seniors will have two opportunities to complete the GME requirement. However, students who fail these two attempts can register and complete the examination after completing the required 128 credits in Mining Engineering.

## Mining Health and Safety Emphasis

Junior and Senior Years		
<a href="#">MIN ENG 3002</a>	Mine Rescue (or approved substitute course in lieu of Technical Elective.)	3
<a href="#">ENG MGT 4330</a>	Human Factors (or approved substitute course in lieu of Technical Elective.)	3

## Sustainable Development Emphasis

Junior and Senior Years		
<a href="#">POL SCI 3300</a>	Principles Of Public Policy (or approved substitute course in lieu of Technical Elective.)	3
<a href="#">ECON 4440</a>	Environmental And Natural Resource Economics (or approved substitute course in lieu of Technical Elective.)	3

## Quarrying Engineering Emphasis

Senior Year		
<a href="#">CIV ENG 3116</a>	Construction Materials, Properties And Testing (in lieu of Technical Elective.)	3
<a href="#">MIN ENG 4212</a>	Advanced Aggregate and Quarrying (in lieu of Technical Elective.)	3

## Explosives Engineering Emphasis

Junior and Senior Years		
Choose one of the following courses in lieu of Technical Elective in Junior Year:		

A three-credit hour explosives engineering (EXP ENG) course	
<a href="#">MIN ENG 4922</a>	Tunneling & Underground Construction Techniques
or <a href="#">MIN ENG 5922</a>	Advanced Tunneling & Underground Construction Techniques
<a href="#">GEO ENG 5471</a>	Rock Engineering
In lieu of Technical Elective in Senior Year:	
<a href="#">EXP ENG 5622</a>	Blasting Design And Technology

## Coal Emphasis

Junior and Senior Years		
<a href="#">MIN ENG 4322</a>	Coal Mine Development And Production (in lieu of Technical Elective.)	3
<a href="#">MIN ENG 4414</a>	Mine Plant Management (or approved substitute course in lieu of Technical Elective.)	2

## Mining and the Environment Emphasis

Junior and Senior Years		
<a href="#">ENV ENG 5640</a>	Environmental Law And Regulations	3
<a href="#">GEO ENG 5233</a>	Risk Assessment In Environmental Studies (or approved substitute course in lieu of Technical Elective.)	3

Justification for request      Request for curriculum changes to the B.S. in Mining Engineering Program are in order to fully meet ABET requirements.

Supporting Documents

Course Reviewer Comments      **frimpong (10/20/14 1:45 pm):** Rollback: Remove the superscript "1" after MEC ENG 2340  
**frimpong (10/20/14 4:45 pm):** Rollback: Let's change GEO 3310 to 3 credits and add GEO 3319 1 credit to make the 4 credits  
**sraper (10/22/14 10:17 am):** Removed reference to mine safety from the FEP paragraph and added a statement with regard to mine safety in the first or second semester. Verified by email with Samuel Frimpong.  
**kleb6b (12/16/14 8:05 am):** Change per CCC Meeting 12/15/14

Key: 95

# Course Inventory Change Request

## New Course Proposal

Date Submitted: 09/08/14 9:28 am

Viewing: **ARCH ENG 5270 : Structural Masonry Design**

File: 4113

Last edit: 11/07/14 8:16 am

Changes proposed by: baur

Requested Fall 2015

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Architectural Engineering (ARCH ENG)

Course Number 5270

Title Structural Masonry Design

Abbreviated Struct Masonry Design

Course Title

Catalog

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

Arch Eng 3201 or Civ Eng 3201.

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

Yes

Majors

Justification for

In Workflow

1. RCIVILEN 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. Ishelton

11. Peoplesoft

Approval Path

1. 10/20/14 11:53  
am

wschon:

Approved for  
RCIVILEN Chair

2. 10/20/14 11:55  
am

kleb6b: Approved  
for CCC Secretary

3. 11/04/14 1:54 pm

srafer: Approved  
for Engineering  
DSCC Chair

4. 11/07/14 8:14 am

kleb6b: Approved  
for Pending CCC  
Agenda post



new course: The course has been taught 3 times as an experimental course and has had good attendance.

Semesters previously offered as an experimental course It was taught in the Fall 2011, Fall 2012 and Spring 2014

Co-Listed Courses: CIV ENG 5270 - **Course Not Found**

Course Reviewer **kleb6b (09/08/14 9:25 am):** Rollback: Correct spelling  
Comments

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Key: 4113

# Course Inventory Change Request

Date Submitted: 10/09/14 10:40 am

Viewing: **CIV ENG 2601 : Fundamentals Of Environmental Engineering And Science**

File: 1451.1

Last edit: 11/07/14 8:16 am

Changes proposed by: mfitch

Programs referencing this course	<a href="#">CV ENG-BS: Civil Engineering BS</a>
Other Courses referencing this course	<p><u>In The Catalog Description:</u></p> <p><a href="#">ENV ENG 2601 : Fundamentals of Environmental Engineering and Science</a></p> <p><u>In The Prerequisites:</u></p> <p><a href="#">ARCH ENG 5665 : Indoor Air Pollution</a></p> <p><a href="#">BIO SCI 5313 : Pathogenic Microbiology</a></p> <p><a href="#">CIV ENG 3615 : Water And Wastewater Engineering</a></p> <p><a href="#">CIV ENG 5605 : Environmental Systems Modeling</a></p> <p><a href="#">CIV ENG 5650 : Public Health Engineering</a></p> <p><a href="#">CIV ENG 5665 : Indoor Air Pollution</a></p> <p><a href="#">CIV ENG 5670 : Solid Waste Management</a></p> <p><a href="#">CIV ENG 6608 : Environmental Engineering Analysis Laboratory</a></p> <p><a href="#">ENV ENG 3615 : Water And Wastewater Engineering</a></p> <p><a href="#">ENV ENG 5605 : Environmental Systems Modeling</a></p> <p><a href="#">ENV ENG 5650 : Public Health Engineering</a></p> <p><a href="#">ENV ENG 5665 : Indoor Air Pollution</a></p> <p><a href="#">ENV ENG 5670 : Solid Waste Management</a></p> <p><a href="#">ENV ENG 6608 : Environmental Engineering Analysis Laboratory</a></p>

Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Civil, Architectural, and Environmental Engineering
Discipline	Civil Engineering (CIV ENG)
Course Number	2601

## In Workflow

1. RCIVILEN 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. Ishelton
11. Peoplesoft

## Approval Path

1. 10/18/14 9:21 am  
wschon:  
Approved for  
RCIVILEN Chair
2. 10/20/14 8:21 am  
kleb6b: Approved  
for CCC Secretary
3. 11/04/14 1:54 pm  
sraper: Approved  
for Engineering  
DSCC Chair

Title	Fundamentals Of Environmental Engineering And Science				
Abbreviated Course Title	Fund Of Env Engr & Sci				
Catalog Description	Course discusses fundamental chemical, physical, and biological principles in environmental engineering and science. Topics include environmental phenomena, aquatic pollution and control, solid waste management, air pollution and control, <del>radiological health, and</del> water and wastewater treatment <b>systems, sustainability and life cycle analyses.</b> <del>systems.</del>				
Prerequisites					
Field Trip Statement					
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3
Required for Majors	<b>Yes</b>				
Elective for Majors	<b>No</b>				
Justification for change:	ABET Program Criteria requires: "The curriculum must prepare graduates to ... design environmental engineering systems that include considerations of risk, uncertainty, sustainability, life-cycle principles, and environmental impacts; ...." This change codifies that sustainability and life cycle principles are in the program and thus address the weakness the PEV kindly identified.				
Semesters previously offered as an experimental course					
Co-Listed Courses:	ENV ENG 2601 - Fundamentals of Environmental Engineering and Science				
Course Reviewer Comments	<b>sraper (10/21/14 9:38 am):</b> Changed to Required for major, verified by phone with Mark Fitch.				

Key: 1451

## Course Inventory Change Request

Date Submitted: 10/13/14 9:30 am

Viewing: **CIV ENG 5448 5460: Green Engineering: Analysis of Constructed Facilities**

File: 439.1

Last edit: 11/07/14 8:22 am

Changes proposed by: wes

Programs  
referencing this  
course

[CV ENG-BS: Civil Engineering BS](#)

Requested  
Effective Change  
Date

Fall **2015 2014**

Department

Civil, Architectural, and Environmental Engineering

Discipline

Civil Engineering (CIV ENG)

Course Number

**5448-5460**

Title

Green Engineering: Analysis of Constructed Facilities

Abbreviated  
Course Title

Green Building

Catalog  
Description

Environmentally sound design and construction practices. Includes design issues, material selection and site issues that can reduce the impact on the environment caused by the construction process. LEED certification covered in depth.

Prerequisites

Civ Eng 4448 or Arch Eng 4448; and Junior Standing.

Field Trip  
Statement

Credit Hours

LEC: 3      LAB: 0      IND: 0      RSD: 0

Total: 3

Required for  
Majors

**No**

### In Workflow

1. RCIVILEN 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. Ishelton
11. Peoplesoft

### Approval Path

1. 10/18/14 9:21 am  
wschon:  
Approved for  
RCIVILEN Chair
2. 10/20/14 8:21 am  
kleb6b: Approved  
for CCC Secretary
3. 11/04/14 1:54 pm  
srafer: Approved  
for Engineering  
DSCC Chair
4. 11/07/14 8:22 am  
kleb6b: Approved  
for Pending CCC  
Agenda post

Elective for Majors	Yes
Justification for change:	This course is co-listed with Arch Eng 5448 but somehow got the number CE 5460. It was formerly 348 in both programs and should now end in -48 to be consistent with our re-numbering scheme. Arch Eng will be unchanged, this course will become CE 5448.
Semesters previously offered as an experimental course	
Co-Listed Courses:	ARCH ENG 5448 - Green Engineering: Analysis of Constructed Facilities
Course Reviewer Comments	<b>sraper (10/21/14 9:39 am):</b> Changed to Elective for majors verified by phone with Stuart Baur.

Key: 439

# Course Inventory Change Request

Date Submitted: 09/26/14 11:59 am

Viewing: **COMP ENG 2210 : Introduction to Digital Logic**

## **Introduction To Computer Engineering**

File: 649.1

Last edit: 09/26/14 11:59 am

Changes proposed by: stanleyj

Programs referencing this course	<a href="#">ARC ENG-BS: Architectural Engineering BS</a> <a href="#">CMP SC-BS: Computer Science BS</a> <a href="#">CP ENG-BS: Computer Engineering BS</a> <a href="#">CP ENG-MI: Computer Engineering Minor</a> <a href="#">EL ENG-BS: Electrical Engineering BS</a>
Other Courses referencing this course	In The Prerequisites: <a href="#">COMP ENG 2211 : Computer Engineering Laboratory</a> <a href="#">COMP ENG 3110 : Computer Organization and Design</a> <a href="#">COMP ENG 3150 : Digital Systems Design</a> <a href="#">COMP ENG 3151 : Digital Engineering Lab II</a> <a href="#">COMP ENG 4096 : Computer Engineering Senior Project I</a> <a href="#">COMP ENG 5210 : Introduction To VLSI Design</a> <a href="#">COMP ENG 5220 : Digital System Modeling</a> <a href="#">COMP ENG 5230 : Optical Computing</a> <a href="#">COMP ENG 5460 : Machine Vision</a> <a href="#">COMP ENG 5510 : Fault-Tolerant Digital Systems</a> <a href="#">COMP ENG 5803 : Mathematical Logic I</a> <a href="#">COMP ENG 6210 : Digital Logic</a> <a href="#">COMP SCI 3803 : Computer Organization</a> <a href="#">COMP SCI 5203 : Mathematical Logic I</a> <a href="#">ELEC ENG 3100 : Electronics I</a> <a href="#">ELEC ENG 3101 : Electronics I Laboratory</a> <a href="#">ELEC ENG 3340 : Controllers For Factory Automation</a> <a href="#">ELEC ENG 4096 : Electrical Engineering Senior Project I</a> <a href="#">ELEC ENG 5250 : Optical Computing</a> <a href="#">ELEC ENG 5460 : Machine Vision</a> <a href="#">MATH 5154 : Mathematical Logic I</a> <a href="#">PHILOS 4354 : Mathematical Logic I</a>

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

### 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. Ishelton
11. Peoplesoft

### Approval Path

1. 09/29/14 2:17 pm  
kte: Approved for RELECENG Chair
2. 09/30/14 7:52 am  
kleb6b: Approved for CCC Secretary
3. 10/13/14 10:01 am  
sraپر: Approved for Engineering DSCC Chair

Department	Electrical and Computer Engineering				
Discipline	Computer Engineering (COMP ENG)				
Course Number	2210				
Title	<b>Introduction to Digital Logic</b> <del>Introduction To Computer Engineering</del>				
Abbreviated Course Title	<b>Intro to Digital Logic</b> <del>Intro To Computer Engr</del>				
Catalog Description	Binary arithmetic, Boolean algebra, logic and memory elements, computer organization.				
Prerequisites	Sophomore standing. Comp Eng 2211 is also a co-requisite for Comp Eng and Elec Eng majors.				
Field Trip Statement					
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
Required for Majors	<b>Yes</b>				
Elective for Majors	<b>No</b>				
Justification for change:	<p>The current course title "Introduction to Computer Engineering" does not properly reflect the course content. The course title "Introduction to Digital Logic" provides a more accurate description of the course content.</p> <p>The course title change was approved by the Computer Engineering faculty on September 25, 2014.</p>				
Semesters previously offered as an experimental course					
Co-Listed Courses:					
Course Reviewer Comments					

Key: 649

# Course Inventory Change Request

Date Submitted: 09/26/14 12:06 pm

Viewing: **COMP ENG 3150 : Introduction to Microcontrollers and Embedded System Design** ~~Digital Systems Design~~

File: 1627.3

Last approved: 06/30/14 3:54 am

Last edit: 12/16/14 8:08 am

Changes proposed by: stanleyj

Programs referencing this course	<a href="#">CMP SC-BS: Computer Science BS</a> <a href="#">CP ENG-BS: Computer Engineering BS</a> <a href="#">CP ENG-MI: Computer Engineering Minor</a> <a href="#">EL ENG-BS: Electrical Engineering BS</a>
Other Courses referencing this course	<u>In The Prerequisites:</u> <a href="#">COMP ENG 3110 : Computer Organization and Design</a> <a href="#">COMP ENG 3151 : Digital Engineering Lab II</a> <a href="#">COMP ENG 4096 : Computer Engineering Senior Project I</a> <a href="#">COMP ENG 5120 : Digital Computer Design</a> <a href="#">COMP ENG 5151 : Digital Systems Design Laboratory</a> <a href="#">COMP ENG 5160 : Embedded Processor System Design</a> <a href="#">COMP ENG 5170 : Real-Time Systems</a> <a href="#">COMP ENG 5410 : Introduction to Computer Communication Networks</a> <a href="#">COMP ENG 5430 : Wireless Networks</a> <a href="#">COMP SCI 3800 : Introduction To Operating Systems</a> <a href="#">COMP SCI 5803 : Introduction to High Performance Computer Architecture</a> <a href="#">ELEC ENG 5430 : Wireless Networks</a> <a href="#">ELEC ENG 5620 : Signal Integrity In High-Speed Digital &amp; Mixed Signal Design</a> <a href="#">SYS ENG 5323 : Wireless Networks</a>

Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	3150

## 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. Ishelton
11. Peoplesoft

## Approval Path

1. 09/29/14 2:17 pm  
kte: Approved for RELECENG Chair
2. 09/30/14 7:52 am  
kleb6b: Approved for CCC Secretary
3. 10/13/14 10:02 am  
srafer: Approved for Engineering DSCC Chair
4. 11/07/14 8:26 am  
kleb6b: Approved for Pending CCC Agenda post
5. 11/20/14 11:17 am  
kleb6b: Approved



Title	Introduction to Microcontrollers and Embedded System Design					for CCC Meeting Agenda 6. 11/20/14 11:20 am kleb6b: Rollback to CCC Meeting Agenda for Campus Curricula Committee Chair
Abbreviated Course Title	Intro Micro Embed Design					
Catalog Description	Microcontroller-based digital system design methodology and techniques. Topics include basic machine organization, interface design, and C and assembly language programming for real-time embedded systems.					
Prerequisites	COMP ENG 2210 and COMP SCI 1570 (or programming equivalent) each with grade of "C" or better.					
Field Trip Statement						History 1. Jun 30, 2014 by stanleyj (1627.1)
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3	
Required for Majors	Yes					
Elective for Majors	No					
Justification for change:	The current course title "Digital System Design" does not properly reflect the course content. The course title "Introduction to Microcontrollers and Embedded System Design" provides a more accurate description of the course content.					
Semesters previously offered as an experimental course	The course title change was approved by the Computer Engineering faculty on September 25, 2014.					
Co-Listed Courses:						
Course Reviewer Comments	sraper (10/13/14 10:02 am): Form had Fall 2014, so changed to Spring 2015 kleb6b (11/20/14 11:20 am): Rollback: Rollback					

Key: 1627

# Course Inventory Change Request

Date Submitted: 09/26/14 1:52 pm

Viewing: **COMP ENG 5151 4151: Digital Systems Design Laboratory**

File: 71.3

Last approved: 06/30/14 3:55 am

Last edit: 11/07/14 8:27 am

Changes proposed by: stanleyj

Requested Fall **2015 2014**

Effective Change  
Date

Department Electrical and Computer Engineering

Discipline Computer Engineering (COMP ENG)

Course Number **5151-4151**

Title Digital Systems Design Laboratory

Abbreviated Digital Sys Design Lab

Course Title

Catalog

Description

Experimental studies of problems with high speed digital signals in circuits. Student designs, wires, tests, and programs a microprocessor based single board computer project. A FPGA design is programmed and tested.

Prerequisites

COMP ENG 3150 or 5110.

Field Trip

Statement

Credit Hours

LEC: 2

LAB: 1

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

**Yes-No**

Majors

Justification for

This course was originally Comp Eng 312 before the 4-digit course number change to

## 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. Ishelton
11. Peoplesoft

## Approval Path

1. 09/29/14 2:17 pm  
kte: Approved for RELECENG Chair
2. 09/30/14 7:52 am  
kleb6b: Approved for CCC Secretary
3. 10/13/14 10:02 am  
srafer: Approved for Engineering DSCC Chair

## History

1. Jun 30, 2014 by stanleyj (71.1)

change: Comp Eng 4151, effective in fall 2014. This course has been commonly taken by undergraduate and graduate students who have interests in microprocessors and hardware /software codesign. In order to sustain the course offering for undergraduate and graduate students, the course number change from Comp Eng 4151 to Comp Eng 5151 is sought. The Computer Engineering faculty approved this course number change (from Comp Eng 4151 to Comp Eng 5151) on September 25, 2014.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer **sraper (10/06/14 5:00 pm):** changed effective date from Fall 2014 to Spring 2015  
Comments

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Key: 71

## Course Inventory Change Request

Date Submitted: 09/26/14 1:55 pm

Viewing: **COMP ENG 5160 4160: Embedded Processor System Design**

File: 764.3

Last approved: 06/30/14 3:55 am

Last edit: 12/16/14 8:09 am

Changes proposed by: stanleyj

Requested Fall **2015 2014**

Effective Change  
Date

Department Electrical and Computer Engineering

Discipline Computer Engineering (COMP ENG)

Course Number **5160-4160**

Title Embedded Processor System Design

Abbreviated Embedded Proc Sys Design  
Course Title

Catalog

Description

Development of hardware and software for embedded systems, including real-time operating systems, advanced programming, communication schemes, hardware peripherals and sensors, control methodologies, printed-circuit board design, interrupts, microcontrollers, and hardware-software co-design. One or more team design projects.

Prerequisites

COMP ENG 3150 or equivalent **or and** 80x51 processor experience.

Field Trip

Statement

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

Total: 3

Required for No

Majors

Elective for **Yes-No**

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. Ishelton
11. Peoplesoft

Approval Path

1. 09/29/14 2:17 pm  
kte: Approved for RELECENG Chair
2. 09/30/14 7:52 am  
kleb6b: Approved for CCC Secretary
3. 10/13/14 10:04 am  
srapar: Approved for Engineering DSCC Chair
4. 11/07/14 8:28 am  
kleb6b: Approved for Pending CCC Agenda post

History

1. Jun 30, 2014 by

## Majors

stanleyj (764.1)

Justification for  
change:

This course was originally Comp Eng 314 before the 4-digit course number change to Comp Eng 4160, effective in fall 2014. This course has been commonly taken by undergraduate and graduate students who have interests in embedded systems. In order to sustain the course offering for undergraduate and graduate students, the course number change from Comp Eng 4160 to Comp Eng 5160 is sought. The Computer Engineering faculty approved this course number change (from Comp Eng 4160 to Comp Eng 5160) on September 25, 2014.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

**sraper (10/13/14 10:04 am):** The DSCC committee questioned the Prerequisite. Joe Stanley replied as follows: The 8051 microcontroller is the primary topic for CpE 3150. I believe that this prereq for CpE 5160 was included for graduate students who have not explicitly taken CpE 3150 but who have 8051 processor experience.

Key: 764

## Course Inventory Change Request

Date Submitted: 10/28/14 11:09 am

Viewing: **COMP ENG 5410 : Introduction to Computer Communication Networks**~~Digital Network Design~~

File: 2454.1

Last edit: 12/17/14 9:53 am

Changes proposed by: stanleyj

Catalog Pages referencing this course	<a href="#">Systems Engineering</a>
Programs referencing this course	<a href="#">CP ENG-BS: Computer Engineering BS</a> <a href="#">CP ENG-MI: Computer Engineering Minor</a>
Other Courses referencing this course	<u>In The Prerequisites:</u> <a href="#">COMP ENG 5420 : Introduction to Network Security</a> <a href="#">COMP ENG 6430 : High Speed Networks</a> <a href="#">COMP ENG 6440 : Network Performance Analysis</a> <a href="#">COMP SCI 6303 : Pervasive Computing</a> <a href="#">COMP SCI 6602 : Network Performance Analysis</a>

Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	5410
Title	<b>Introduction to Computer Communication Networks</b> <del>Digital Network Design</del>
Abbreviated Course Title	<b>Intro to Comm Networks</b> <del>Digital Network Design</del>

Catalog Description  
Design of computer networks with emphasis on network architecture, protocols and standards, performance considerations, and network technologies. Topics include:

### 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. Ishelton
11. Peoplesoft

### Approval Path

1. 11/03/14 1:59 pm  
daryl: Approved for RELECENG Chair
2. 11/03/14 2:11 pm  
kleb6b: Approved for CCC Secretary
3. 11/07/14 12:58 pm  
srafer: Approved for Engineering DSCC Chair
4. 11/07/14 4:05 pm  
kleb6b: Approved for Pending CCC Agenda post

LAN, MAN, WAN, congestion/flow/error control, routing, addressing, broadcasting, multicasting, switching, and internetworking. A modeling tool is used for network design and simulation.

Prerequisites      Comp Eng **3150** ~~3550~~ or computer hardware competency.

Field Trip  
Statement

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

Required for  
Majors      **Yes**

Elective for  
Majors      **No**

Justification for  
change:      Course title change is sought to better reflect the course content.

The course title change was approved by the Computer Engineering faculty on September 25, 2014.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer      **sraper (11/05/14 9:52 am):** Changed to required for majors via email approval from  
Comments      Joe Stanley

Key: 2454

# Course Inventory Change Request

Date Submitted: 10/28/14 11:12 am

Viewing: **COMP ENG 5420 : Introduction to Network Security**

**Trustworthy, Survivable Computer Networks**

File: 2460.1

Last edit: 12/16/14 8:10 am

Changes proposed by: stanleyj

Catalog Pages referencing this course	<a href="#">Systems Engineering</a>
Programs referencing this course	<a href="#">CP ENG-BS: Computer Engineering BS</a>
Other Courses referencing this course	<p>In The Prerequisites:</p> <p><a href="#">COMP ENG 6420 : Wireless Ad hoc and Sensor Networks</a></p> <p><a href="#">COMP ENG 6510 : Resilient Networks</a></p> <p><a href="#">COMP SCI 6605 : Advanced Network Security</a></p> <p><a href="#">ELEC ENG 6430 : Wireless Ad hoc and Sensor Networks</a></p> <p><a href="#">SYS ENG 6322 : Network-Centric Systems Reliability and Security</a></p> <p><a href="#">SYS ENG 6324 : Wireless Ad hoc and Sensor Networks</a></p>

Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	5420
Title	<b>Introduction to Network Security</b> <del>Trustworthy, Survivable Computer Networks</del>
Abbreviated Course Title	<b>Intro Network Security</b> <del>Trustworthy Networks</del>

Catalog Description	This course examines basic issues in network management, testing, and security; it
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## 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. Ishelton
11. Peoplesoft

## Approval Path

1. 11/03/14 2:00 pm  
daryl: Approved for RELECENG Chair
2. 11/03/14 2:11 pm  
kleb6b: Approved for CCC Secretary
3. 11/07/14 12:58 pm  
sraper: Approved for Engineering DSCC Chair
4. 11/07/14 4:05 pm  
kleb6b: Approved for Pending CCC Agenda post



also discusses key encryption, key management, authentication, intrusion detection, malicious attack, and insider threats. Security of electronic mail and electronic commerce systems is also presented.

Prerequisites      Comp Eng 5410 or Comp Sci 4601.

Field Trip  
Statement

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

Required for  
Majors      **No**

Elective for  
Majors      **Yes**

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Justification for  
change:      Course title change is sought to better reflect the course content.

The course title change was approved by the Computer Engineering faculty on September 25, 2014.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer      **sraper (11/05/14 9:52 am):** changed to elective for majors via email from Joe  
Comments      Stanley

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Key: 2460

# Course Inventory Change Request

Date Submitted: 06/19/14 9:50 am

Viewing: **EXP ENG 6099 : Research**

File: 948.1

Last edit: 12/16/14 8:11 am

Changes proposed by: lahne

Programs EXP EN-MS: Explosives Engineering MS  
referencing this  
course

Requested Fall **2015** ~~2014~~

Effective Change  
Date

Department Mining & Nuclear Engineering

Discipline Explosives Engineering (EXP ENG)

Course Number 6099

Title Research

Abbreviated Research

Course Title

Catalog

Description

Investigations of an advanced nature leading to the preparation of a thesis or dissertation. ~~Consent of instructor required.~~

Prerequisites

**Consent of instructor required.**

Field Trip

Statement

Credit Hours

LEC: 0

LAB: 0

IND: **0-15-0**

RSD: 0

Total: **0-15**

~~1-6~~

Required for

**No**

Majors

Elective for

**No**

Majors

## In Workflow

1. **RMINNUCL 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. Ishelton
11. Peoplesoft

## Approval Path

1. 08/04/14 10:19 am  
frimpong:  
Approved for  
RMINNUCL Chair
2. 08/04/14 10:33 am  
kleb6b: Approved  
for CCC Secretary
3. 08/12/14 9:16 am  
srafer: Rollback  
to RMINNUCL  
Chair for  
Engineering DSCC  
Chair
4. 10/16/14 10:53 am  
frimpong:

Justification for  
change:

Credit hours need to be adjusted since there are both Explosive Engineering Masters  
and PhD programs.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer

Comments

**sraper (08/12/14 9:16 am):** Rollback: Effective date cannot be Fall 2014. Required for  
Majors and Elective for Majors cannot both be No.

**sraper (10/21/14 9:40 am):** During CCC meeting with this form, we need to discuss  
required versus elective. I will have email from Paul Worsey at the meeting where  
this form comes up.

**sraper (11/04/14 1:55 pm):** unclear on this one, will discuss with CCC committee.

Approved for  
RMINNUCL Chair  
5. 10/16/14 11:18  
am  
kleb6b: Approved  
for CCC Secretary  
6. 11/04/14 1:55 pm  
sraper: Approved  
for Engineering  
DSCC Chair  
7. 11/07/14 8:32 am  
kleb6b: Approved  
for Pending CCC  
Agenda post

Key: 948

# Course Inventory Change Request

Date Submitted: 10/30/14 1:55 pm

Viewing: **EXP ENG 6292 : Research Methods**

File: 795.1

Last edit: 12/16/14 8:12 am

Changes proposed by: cifarellit

Other Courses  
referencing this  
course

In The Catalog Description:  
[MIN ENG 6992 : Research Methods](#)

Requested Effective Change Date: Fall **2015** ~~2014~~

Department: Mining & Nuclear Engineering

Discipline: Explosives Engineering (EXP ENG)

Course Number: 6292

Title: Research Methods

Abbreviated Course Title: Research Methods

Catalog Description:  
Foundations, dimensions, and methods for designing and investigating research problems. Focus on fundamentals and applied research, research methods, literature review, experimental design and experimentation, dissertation composition, concepts of originality and intellectual property.

Prerequisites:  
**PhD students only.** ~~Graduate standing.~~

Field Trip  
Statement

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

Required for Majors: **Yes**

Elective for: **No**

## In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

## Approval Path

1. 10/30/14 2:34 pm  
frimpong:  
Approved for RMINNUCL Chair
2. 10/30/14 3:25 pm  
kleb6b: Approved for CCC Secretary
3. 11/07/14 12:57 pm  
srafer: Approved for Engineering DSCC Chair
4. 11/07/14 4:05 pm  
kleb6b: Approved for Pending CCC Agenda post

## Majors

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Justification for change:	Graduate Standing was too broad of a prereq statement. PhD Candidates makes the enrollment more specific.
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Semesters  
previously  
offered as an  
experimental  
course

Co-Listed Courses:	MIN ENG 6992 - Research Methods
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Course Reviewer Comments	<b>sraper (11/05/14 9:55 am):</b> Changed to Required for majors via email from Tina Alobaidan
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Key: 795

# Course Inventory Change Request

Date Submitted: 10/16/14 11:16 am

Viewing: **MIN ENG 4096 : Mine Design Project I**

File: 1944.3

Last approved: 05/02/14 3:46 am

Last edit: 10/16/14 11:28 am

Changes proposed by: cifarellit

Programs  
referencing this  
course

[MI ENG-BS: Mining Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:  
[MIN ENG 4097 : Mine Design Project II](#)

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Mining & Nuclear Engineering

Discipline

Mining Engineering (MIN ENG)

Course Number

4096

Title

Mine Design Project I

Abbreviated  
Course Title

Mine Design Project I

Catalog  
Description

**Mine planning and design using commercial software. Orebody description.**  
**Surface mining: geometric design, pit limits, and production planning.**  
**Underground mining: development planning, opening and support design,**  
**ventilation and production planning. Group projects with real-world mining data.**  
**Preparation for capstone design project. Formation of mine design project teams**  
~~and acquisition of project data from industry. Geostatistical methods for ore reserves~~  
~~estimation. Develop complete project schedule and milestones for executing the~~  
~~project tasks in Min Eng 4097 (Mine Design Project II). Set up database for Min Eng~~  
~~4097 and interact with selected mine design software packages.~~

Prerequisites

## In Workflow

1. **RMINNUCL 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. Ishelton
11. Peoplesoft

## Approval Path

1. 10/16/14 11:22 am  
frimpong: Approved for RMINNUCL Chair
2. 10/16/14 11:28 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:40 pm  
srafer: Approved for Engineering DSCC Chair

## History

1. May 2, 2014 by lahne (1944.1)

Min Eng ~~4522, 2914 and~~ Min Eng **4932 and Min Eng 4933. 2924.**

Field Trip  
Statement

Credit Hours      LEC: 0      LAB: **3-1**      IND: 0      RSD: 0      Total: **3-1**

Required for  
Majors      Yes

Elective for  
Majors      No

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Justification for  
change:      This course is being modified to implement a new curriculum for the B.S. degree in  
Mining Engineering to satisfy ABET requirements.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer      **frimpong (10/16/14 11:11 am):** Rollback: Modification of the justification: This  
Comments      course is being modified to implement a new curriculum for the B.S. degree in  
Mining Engineering to satisfy ABET requirements.

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Key: 1944

## Course Inventory Change Request

Date Submitted: 10/16/14 11:18 am

Viewing: **MIN ENG 4097 : Mine Design Project II**

File: 1128.3

Last approved: 04/25/14 3:07 pm

Last edit: 11/07/14 8:34 am

Changes proposed by: cifarellit

Programs  
referencing this  
course

[MI ENG-BS: Mining Engineering BS](#)

Other Courses  
referencing this  
course

In The Catalog Description:  
[MIN ENG 4096 : Mine Design Project I](#)

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Mining & Nuclear Engineering

Discipline

Mining Engineering (MIN ENG)

Course Number

4097

Title

Mine Design Project II

Abbreviated  
Course Title

Mine Design Project II

Catalog  
Description

Capstone project with written and oral presentations. Includes mine design and optimization, production plan, equipment and flowsheet design based on geology, resources/reserves, geotechnics, hydrology and hydro-geology. Project also incorporates markets, environmental and permitting, mine-mill organization, support facilities, economic and risk analyses.→

Prerequisites

Min Eng ~~4932~~, ~~Min Eng 4933~~, ~~Min Eng~~ 4096 and completion of 110 hours in the Mining Engineering Curriculum.

Field Trip  
Statement

### In Workflow

1. **RMINNUCL 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. Ishelton
11. Peoplesoft

### Approval Path

1. 10/16/14 11:22 am  
frimpong:  
Approved for  
RMINNUCL Chair
2. 10/16/14 11:29 am  
kleb6b: Approved  
for CCC Secretary
3. 11/04/14 2:40 pm  
srafer: Approved  
for Engineering  
DSCC Chair

### History

1. Apr 25, 2014 by  
lahne (1128.1)



Credit Hours	LEC: 1	LAB: 3	IND: 0	RSD: 0	Total: 4
Required for Majors	Yes				
Elective for Majors	No				
Justification for change:	Pre-Requisite changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements. Min Eng 4932 and Min Eng 4933 have been removed as pre-requisites because they have been made pre-requisites to Min Eng 4096. The latter is a pre-requisite requirement to this course.				
Semesters previously offered as an experimental course					
Co-Listed Courses:					
Course Reviewer Comments	<b>frimpong (10/16/14 11:14 am):</b> Rollback: Pre-Requisite changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements. Min Eng 4932 and Min Eng 4933 have been removed as pre-requisites because they have been made pre-requisites to Min Eng 4096. The latter is a pre-requisite requirement to this course.				

Key: 1128

# Course Inventory Change Request

Date Submitted: 10/16/14 11:27 am

Viewing: **MIN ENG 4113 : Mine Atmosphere Control**

File: 2260.1

Last edit: 10/21/14 9:42 am

Changes proposed by: cifarellit

Programs  
referencing this  
course

MI ENG-BS: Mining Engineering BS

Other Courses  
referencing this  
course

In The Prerequisites:  
MIN ENG 6133 : Mine Atmospheric Control II

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Mining & Nuclear Engineering

Discipline

Mining Engineering (MIN ENG)

Course Number

4113

Title

Mine Atmosphere Control

Abbreviated  
Course Title

Mine Atmosphere Control

Catalog  
Description

Fundamentals of mine ventilation, including the principles of airflow, control of gases, dust, and temperature, methane drainage, mine fans, network theory, computer network simulation, and economics of airflow, with emphasis on analysis, systems design and practical application.

Prerequisites

**Chem 3410** and Civ Eng 3330.

Field Trip  
Statement

Credit Hours

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

Required for

**Yes**

## In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

## Approval Path

1. 10/16/14 11:29 am  
frimpong: Approved for RMINNUCL Chair
2. 10/16/14 11:31 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:40 pm  
sraper: Approved for Engineering DSCC Chair

## Majors

Elective for  
Majors**No**Justification for  
change:Pre-Requisite change is being made to implement a new curriculum for the B.S.  
degree in Mining Engineering to satisfy ABET requirements.Semesters  
previously  
offered as an  
experimental  
courseCo-Listed  
Courses:Course Reviewer  
Comments**frimpong (10/16/14 11:15 am):** Rollback: This course is being modified to  
implement a new curriculum for the B.S. degree in Mining Engineering to satisfy  
ABET requirements.**frimpong (10/16/14 11:25 am):** Rollback: Pre-Requisite change is being made to  
implement a new curriculum for the B.S. degree in Mining Engineering to satisfy  
ABET requirements.**sraper (10/21/14 9:42 am):** Changed to Required for Majors, verified via email with  
Samuel Frimpong.

Key: 2260

# Course Inventory Change Request

Date Submitted: 10/16/14 11:19 am

Viewing: **MIN ENG 4512 : Mine Management**

File: 1302.1

Last edit: 10/16/14 11:29 am

Changes proposed by: cifarellit

Programs  
referencing this  
course

MI ENG-BS: Mining Engineering BS

Requested Fall ~~2015~~ 2014

Effective Change  
Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 4512

Title Mine Management

Abbreviated Mine Management  
Course Title

Catalog

Description

Theory and practice of mine management, including basic managerial functions, management theories, communication skills, motivation, leadership, organization, maintenance management, managerial decision making, cost control, labor relations, government relations, **ethics and risks management** ~~ethics~~, with emphasis in presentation skills.

Prerequisites

Completion of 100 credits in Mining Engineering curriculum.

Field Trip

Statement

Credit Hours LEC: ~~3~~-2 LAB: 0 IND: 0 RSD: 0 Total: ~~3~~-2

Required for  
Majors **Yes**

Elective for **No**

In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

Approval Path

1. 10/16/14 11:23 am  
frimpong: Approved for RMINNUCL Chair
2. 10/16/14 11:29 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:40 pm  
sraper: Approved for Engineering DSCC Chair

## Majors

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Justification for change:	Description and credit hour changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements.
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Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer Comments	<b>frimpong (10/16/14 11:16 am):</b> Rollback: Description and credit hour changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements.
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Key: 1302

# Course Inventory Change Request

Date Submitted: 10/29/14 8:39 am

Viewing: **MIN ENG 4742 : Environmental Aspects Of Mining**

File: 529.1

Last edit: 10/29/14 11:33 am

Changes proposed by: kabp3

Programs  
referencing this  
course MI ENG-BS: Mining Engineering BS

Other Courses  
referencing this  
course In The Catalog Description:  
GEO ENG 4276 : Environmental Aspects Of Mining  
In The Prerequisites:  
MIN ENG 6522 : Mining Property Feasibility Studies And  
Evaluation Procedure  
MIN ENG 6735 : Sustainability In Mining

Requested  
Effective Change  
Date **Spring 2015** ~~Fall 2014~~

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 4742

Title Environmental Aspects Of Mining

Abbreviated  
Course Title Env Aspects Of Mining

Catalog  
Description  
Permitting: the legal environment of reclamation and environmental impact  
assessment; post-mining land-use selection and mine planning for optimum  
reclamation of all mines: metal, nonmetal, and coal; unit operations of reclamation:  
drainage, backfill, soil replacement, revegetation, maintenance, etc.

Prerequisites **Co-requisites: MIN ENG Geo-Eng-1150; Min-Eng-4932 and 4933 or GEO ENG 5441 or**  
**ENV ENG 5619. prereq./coreq- Civ-Eng-3715.**

Field Trip  
Statement

## In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

## Approval Path

1. 10/29/14 8:54 am  
frimpong:  
Approved for  
RMINNUCL Chair
2. 10/29/14 11:34  
am  
kleb6b: Approved  
for CCC Secretary
3. 11/07/14 12:57  
pm  
srafer: Approved  
for Engineering  
DSCC Chair

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
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Required for Majors	<b>Yes</b>
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Elective for Majors	<b>No</b>
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Justification for change:	Streamline pre-requisites to be consistent with course content.
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Semesters previously offered as an experimental course	
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Co-Listed Courses:	GEO ENG 4276 - Environmental Aspects Of Mining
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Course Reviewer Comments	<b>frimpong (10/28/14 10:25 pm):</b> Rollback: Indicate YES for Required for Majors.
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Key: 529

# Course Inventory Change Request

Date Submitted: 10/16/14 11:20 am

Viewing: **MIN ENG 4823 : Rock Mechanics**

File: 1823.1

Last edit: 10/21/14 9:43 am

Changes proposed by: cifarellit

Programs referencing this course	<a href="#">GE ENG-BS: Geological Engineering BS</a> <a href="#">GEOL-MI: Geology Minor</a> <a href="#">MI ENG-BS: Mining Engineering BS</a>
Other Courses referencing this course	<u>In The Prerequisites:</u> <a href="#">GEO ENG 6477 : Discontinuous Rock</a> <a href="#">MIN ENG 4922 : Tunneling &amp; Underground Construction Techniques</a> <a href="#">MIN ENG 4932 : Underground Mining Methods And Equipment</a> <a href="#">MIN ENG 4933 : Surface Mining Methods And Equipment</a> <a href="#">MIN ENG 5822 : Strata Control</a> <a href="#">MIN ENG 6842 : Advanced Rock Mechanics</a> <a href="#">MIN ENG 6843 : Rock Mechanics IV</a>

Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	4823
Title	Rock Mechanics
Abbreviated Course Title	Rock Mechanics

## Catalog

### Description

Applications of the fundamental principles of mechanics to engineering problems of equilibrium, strength and stiffness of rock materials. Review of in-situ stresses, laboratory and field instrumentation, rock and rockmass properties, pillar design, roof span design, rock reinforcement, surface subsidence, slope stability, and violent failures.

## In Workflow

1. **RMINNUCL 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. Ishelton
11. Peoplesoft

## Approval Path

1. 10/16/14 11:23 am  
frimpong: Approved for RMINNUCL Chair
2. 10/16/14 11:30 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:41 pm  
srafer: Approved for Engineering DSCC Chair



Prerequisites	<b>Physics 2135; <del>IDE 2340, or</del> Civ Eng 2210; <del>2200</del> and <del>IDE 2350; and</del> Geology 3310.</b>				
Field Trip Statement	Field trip required.				
Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0	Total: 3
Required for Majors	<b>Yes</b>				
Elective for Majors	<b>No</b>				
Justification for change:	Pre-Requisite changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements.				
Semesters previously offered as an experimental course					
Co-Listed Courses:					
Course Reviewer Comments	<b>frimpong (10/16/14 11:18 am):</b> Rollback: Pre-Requisite changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements. <b>sraper (10/21/14 9:43 am):</b> Changed to Required for Majors verified via email with Samuel Frimpong.				

Key: 1823

## Course Inventory Change Request

Date Submitted: 10/16/14 11:20 am

Viewing: **MIN ENG 4824 : Soils and Overburden Materials for Mining Engineering**

File: 1067.1

Last edit: 10/21/14 9:43 am

Changes proposed by: cifarellit

Programs  
referencing this  
course

[MI ENG-BS: Mining Engineering BS](#)

Requested Effective Change  
Date

Fall ~~2014~~ **2015**

Department

Mining & Nuclear Engineering

Discipline

Mining Engineering (MIN ENG)

Course Number

4824

Title

Soils and Overburden Materials for Mining Engineering

Abbreviated  
Course Title

Soils and Overburden

Catalog  
Description

Physical and mechanical properties of soils and overburden materials. Soils and overburden characterization for reclamation and mine closure and overburden blasting. Soil failure modes and slope stability for surface mine layouts, waste dumps, tailings and earth dams, and foundations for heavy mining machinery.

Prerequisites

**Civ Eng 2210.** ~~IDE 2340, or Civ Eng 2200 and IDE 2350.~~

Field Trip  
Statement

Credit Hours

LEC: 2	LAB: 0	IND: 0	RSD: 0	Total: 2
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Required for  
Majors

**Yes**

### In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

### Approval Path

1. 10/16/14 11:23 am  
frimpong: Approved for RMINNUCL Chair
2. 10/16/14 11:30 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:41 pm  
sraper: Approved for Engineering DSCC Chair

Elective for Majors	No
Justification for change:	Pre-Requisite changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	<p><b>frimpong (10/16/14 11:19 am):</b> Rollback: Pre-Requisite changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements.</p> <p><b>sraper (10/21/14 9:43 am):</b> Changed to Required for Majors verified via email from Samuel Frimpong.</p>

Key: 1067

## Course Inventory Change Request

Date Submitted: 10/16/14 11:34 am

Viewing: **MIN ENG 4912 : Mine Power And Drainage**

File: 1145.1

Last edit: 11/07/14 8:41 am

Changes proposed by: cifarellit

Programs  
referencing this  
course MI ENG-BS: Mining Engineering BS

Other Courses  
referencing this  
course In The Prerequisites:  
MIN ENG 4322 : Coal Mine Development And Production

Requested  
Effective Change  
Date Fall ~~2014~~ **2015**

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 4912

Title Mine Power And Drainage

Abbreviated  
Course Title Mine Power And Drainage

Catalog  
Description

Engineering principles of mine power distribution and application and mine dewatering. ~~Electric power: Basics~~ **basics** of electrical circuits, AC/DC power, transformers, electric meters, power distribution, power management. ~~Fundamentals of thermodynamics~~. Hydraulic power systems. Compressed air in mines. Mine **dewatering**. ~~dewatering: passive and active systems~~. Controlling water inflow. Dewatering **wells**. ~~wells: horizontal and vertical~~. Water pumping and pumping systems.

Prerequisites **Chem 3410 and Civ Eng 3330.**

Field Trip  
Statement **Field trip required.**

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

### In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

### Approval Path

1. 10/16/14 11:35 am  
frimpong: Approved for RMINNUCL Chair
2. 10/16/14 11:38 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:41 pm  
srafer: Approved for Engineering DSCC Chair

Required for Majors	<b>Yes</b>
Elective for Majors	<b>No</b>

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Justification for change:	Description and pre-requisite changes are being made to implement a new curriculum for the B.S. degree in Mining Engineering to satisfy ABET requirements.
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Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer  
Comments

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Key: 1145

# Course Inventory Change Request

## New Course Proposal

Date Submitted: 10/20/14 3:13 pm

Viewing: **MIN ENG 5532 : Advanced Mining Economics**

File: 4135

Last edit: 11/07/14 8:42 am

Changes proposed by: jrussell

Requested Fall 2015

Effective Change

Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 5532

Title Advanced Mining Economics

Abbreviated Adv Min Econ

Course Title

Catalog

Description

Mining industry & national economics. Social & economics significance of mined commodities. Marketing of mined commodities. Innovation approaches to mine financing, project loans, and leasing. Mining feasibility studies, government influence & policy, mining industry foreign investment, investment strategies, mining taxation, cost predictions. Case Studies.

Prerequisites

None.

Field Trip

Statement

None.

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

Yes

Majors

In Workflow

1. RMINNUCL 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. Ishelton

11. Peoplesoft

Approval Path

1. 10/20/14 4:00 pm  
frimpong:

Approved for  
RMINNUCL Chair

2. 10/20/14 4:19 pm  
kleb6b: Approved

for CCC Secretary

3. 11/04/14 2:41 pm  
srafer: Approved

for Engineering  
DSCC Chair

Justification for new course: Course taught twice successfully . Title change to Advance Mining Economics, student must complete prerequisite course prior to advance level.

Semesters previously offered as an experimental course  
SP2013 & SP2014

Co-Listed Courses:

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Course Reviewer Comments

**frimpong (10/20/14 11:46 am):** Rollback: Consider making this course a 4000 level course since the first Mining Industry Economics course is a 3000 level course.

**frimpong (10/20/14 12:42 pm):** Rollback: Remove II from title.

**frimpong (10/20/14 12:53 pm):** Rollback: Title must be changed into Advanced Mining Economics

**kleb6b (10/20/14 2:48 pm):** Rollback: Edit Catalog Description to 160 characters.

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Key: 4135

# Course Inventory Change Request

## New Course Proposal

Date Submitted: 10/23/14 2:46 pm

Viewing: **MIN ENG 6080 : Graduate Project**

File: 4095

Last edit: 12/16/14 8:14 am

Changes proposed by: jrussell

Requested Fall 2015

Effective Change

Date

Department Mining & Nuclear Engineering

Discipline Mining Engineering (MIN ENG)

Course Number 6080

Title Graduate Project

Abbreviated Graduate Project

Course Title

Catalog

Description

Advanced engineering design, experimentation, evaluation and assessment leading to the preparation of a project report. For practicing professionals, this project could be based on an actual industry problem.

Prerequisites

Graduate Standing.

Field Trip

Statement

Credit Hours

LEC: 0

LAB: 0

IND: 3

RSD: 0

Total: 3

Required for

Yes

Majors

Elective for

No

Majors

Justification for  
new course:

Mining Engineering needs an Industry Project course.

### In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

### Approval Path

1. 10/23/14 2:51 pm  
frimpong:  
Approved for  
RMINNUCL Chair
2. 10/23/14 2:53 pm  
kleb6b: Approved  
for CCC Secretary
3. 11/04/14 2:42 pm  
srafer: Approved  
for Engineering  
DSCC Chair
4. 11/07/14 8:43 am  
kleb6b: Approved  
for Pending CCC  
Agenda post



Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer    **sraper (08/12/14 9:19 am):** Rollback: Effective Date cannot be Fall 2014. Required  
Comments            for Majors and Effective for Majors cannot be both No.  
**frimpong (10/16/14 11:20 am):** Rollback: sraper (08/12/14 9:19 am): Rollback:  
Effective Date cannot be Fall 2014. Required for Majors and Effective for Majors  
cannot be both No.  
**kleb6b (10/23/14 12:04 pm):** Rollback: Rollback

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Key: 4095

## Course Inventory Change Request

### New Course Proposal

Date Submitted: 09/24/14 10:25 am

Viewing: **NUC ENG 5257 : Introduction to Nuclear Thermal Hydraulics**

File: 4118

Last edit: 01/05/15 10:24 am

Changes proposed by: schlegelj

Requested	Fall 2015
Effective Change Date	
Department	Mining & Nuclear Engineering
Discipline	Nuclear Engineering (NUC ENG)
Course Number	5257
Title	Introduction to Nuclear Thermal Hydraulics
Abbreviated Course Title	Intro Nuclear Therm Hydr

#### Catalog

##### Description

An introductory course in the application of two-phase flow in energy systems. Students will be acquainted with governing equations for both single-phase and two-phase fluid flow, state-of-the-art analytical methods and various two-phase flow phenomena related to energy systems. Intended for graduate student enrollment.

##### Prerequisites

##### Field Trip

##### Statement

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

Required for Majors	No
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Elective for Majors	Yes
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#### In Workflow

1. RMINNUCL 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. Ishelton
11. Peoplesoft

#### Approval Path

1. 10/16/14 11:20 am  
frimpong: Approved for RMINNUCL Chair
2. 10/16/14 11:30 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:42 pm  
sraper: Approved for Engineering DSCC Chair
4. 11/07/14 8:44 am  
kleb6b: Approved for Pending CCC Agenda post

Justification for  
new course:

This course should have been added during the change in course numbering. Previously it was offered as Nuc Eng 317, a combined graduate/undergraduate course. When the course numbers were changed, it was listed as Nuc Eng 4257 but should have been split into Nuc Eng 4257 and Nuc Eng 5257. Since the course was not offered for the last couple of years, no one caught the error. However as a new faculty, I would like to offer this course again in Spring of 2015.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

**sraper (10/21/14 9:44 am):** Changed to Elective for Majors verified via email from Hank Lee.

Key: 4118

## Course Inventory Change Request

Date Submitted: 11/03/14 2:18 pm

Viewing: **RUSSIAN 4320 : Russian Phonetics and Intonation**

File: 1886.1

Last edit: 12/16/14 8:16 am

Changes proposed by: ivliyeva

Programs MUL&DIV-MI: Multiculture & Diversity Minor  
referencing this  
course

Requested Effective Change Date Fall **2015** ~~2014~~  
Department Arts, Languages, & Philosophy  
Discipline Russian (RUSSIAN)  
Course Number 4320  
Title Russian Phonetics and Intonation  
Abbreviated Course Title Russian Phonetics

### Catalog

#### Description

This course focuses on pronunciation improvement, development of basic transcription skills, comprehension of Russian speech at fast tempo, interactions of intonation and syntax. ~~Lab work is required.~~

#### Prerequisites

Russian 1102.

#### Field Trip

#### Statement

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

Required for Majors **No**

Elective for Majors **Yes**

### In Workflow

1. RPHILOSO 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. Ishelton
11. Peoplesoft

### Approval Path

1. 11/03/14 2:23 pm  
Ishelton: Approved for RPHILOSO Chair
2. 11/03/14 4:25 pm  
Ishelton: Approved for CCC Secretary
3. 11/03/14 4:46 pm  
Ishelton: Approved for Arts & Humanities DSCC Chair
4. 11/07/14 8:46 am  
Ishelton: Approved for Pending CCC Agenda post

---

Justification for change: To enhance the course content to better serve students' needs.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer  
Comments

Key: 1886

## Course Inventory Change Request

Date Submitted: 11/03/14 2:19 pm

Viewing: **RUSSIAN 4330 : Business Russian**

File: 1536.1

Last edit: 11/03/14 4:44 pm

Changes proposed by: ivliyeva

Programs MUL&DIV-MI: Multiculture & Diversity Minor  
referencing this  
course

Requested Fall **2015** ~~2014~~

Effective Change  
Date

Department Arts, Languages, & Philosophy

Discipline Russian (RUSSIAN)

Course Number 4330

Title Business Russian

Abbreviated Business Russian  
Course Title

Catalog

Description

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

Prerequisites

Russian 1180.

Field Trip

Statement

Credit Hours LEC: **3-2** LAB: **0-1** IND: 0 RSD: 0

Total: 3

Required for **No**  
Majors

Elective for **Yes**

### In Workflow

1. RPHILOSO 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. Ishelton
11. Peoplesoft

### Approval Path

1. 11/03/14 2:23 pm  
lance: Approved for RPHILOSO Chair
2. 11/03/14 4:25 pm  
kleb6b: Approved for CCC Secretary
3. 11/03/14 4:45 pm  
ivliyeva: Approved for Arts & Humanities DSCC Chair

## Majors

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Justification for change: To enhance the course content to better serve students' needs.

Semesters previously offered as an experimental course

Co-Listed Courses:

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Course Reviewer Comments

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Key: 1536

# Course Inventory Change Request

## New Experimental Course Proposal

Date Submitted: 10/02/14 4:17 pm

Viewing: **ARCH ENG 5001.TBD : Daylighting**

File: 4129

Last edit: 12/16/14 8:17 am

Changes proposed by: baur

Requested Fall 2015

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Architectural Engineering (ARCH ENG)

Course Number 5001

Topic ID TBD

Experimental Daylighting

Title

Experimental Daylighting

Abbreviated

Course Title

Instructors Julian Wang

Experimental

Catalog

Description

This course focuses on daylighting technologies and design. Students will use physical model techniques (Heliodon and light meters) and computer techniques (Radiance, Daysim, and EvaGlare) for exploring qualities of daylight with some attention to an understanding of the physical and perceptual mechanisms that shape our experience of daylight.

Prerequisites

Civ Eng 3842 or Arch Eng/Mech Eng 5871.

Field Trip

Statement

Credit Hours

LEC: 2

LAB: 1

IND: 0

RSD: 0

Total: 3

### In Workflow

1. RCIVILEN Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

### Approval Path

1. 10/18/14 9:22 am  
wschon:  
Approved for  
RCIVILEN Chair
2. 10/20/14 8:19 am  
kleb6b: Approved  
for CCC Secretary
3. 10/20/14 11:25  
am  
kleb6b: Rollback  
to RCIVILEN Chair  
for Engineering  
DSCC Chair
4. 10/20/14 11:29  
am  
wschon:  
Approved for  
RCIVILEN Chair
5. 10/20/14 11:35  
am  
kleb6b: Approved  
for CCC Secretary
6. 11/04/14 1:54 pm  
sraper: Approved



Justification for

new course:

The course will provide students interested in sustainable building design a course to understand the importance of daylight integration as this is a growing requirement in every building design. Additionally this course would lend itself to the growing interest in developing a masters program in architectural engineering.

Semester(s)

previously taught

Co-Listed

Courses:

Course Reviewer

Comments

**kleb6b (10/20/14 11:25 am):** Rollback: Rollback

**kleb6b (11/20/14 11:19 am):** Rollback: Rollback

for Engineering

DSCC Chair

7. 11/05/14 3:49 pm

kleb6b: Approved

for Pending CCC

Agenda post

8. 11/20/14 11:17

am

kleb6b: Approved

for CCC Meeting

Agenda

9. 11/20/14 11:19

am

kleb6b: Rollback

to CCC Meeting

Agenda for

Campus Curricula

Committee Chair

Key: 4129

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 10/02/14 4:29 pm

Viewing: **ARCH ENG 5001.TBD : Sustainable Building: Design and Performance**

File: 4130

Last edit: 12/16/14 8:18 am

Changes proposed by: baur

Requested	Spring 2016
Effective Change Date	
Department	Civil, Architectural, and Environmental Engineering
Discipline	Architectural Engineering (ARCH ENG)
Course Number	5001
Topic ID	TBD
Experimental Title	Sustainable Building: Design and Performance
Experimental Abbreviated Course Title	Sust Bldg: Des & Perform
Instructors	Julian Wang

#### Experimental

#### Catalog

#### Description

Build on the principles of building sustainability, this course provides students with the knowledge, skills, and tools to be able to design, evaluate, and advise on the creation of building performance. By lectures and projects, the course employs critical analysis, measurement and simulation, and architectural expression to inform building performance.

#### Prerequisites

Civ Eng 3842 or Arch Eng/Mech Eng 5872.

#### Field Trip

#### Statement

#### In Workflow

1. RCIVILEN Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 10/18/14 9:23 am  
wschon:  
Approved for  
RCIVILEN Chair
2. 10/20/14 8:21 am  
kleb6b: Approved  
for CCC Secretary
3. 11/04/14 1:54 pm  
sraper: Approved  
for Engineering  
DSCC Chair
4. 11/05/14 3:51 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post
5. 11/20/14 11:17  
am  
kleb6b: Approved  
for CCC Meeting  
Agenda
6. 11/20/14 11:19  
am  
kleb6b: Rollback  
to CCC Meeting

Credit Hours

LEC: 2

LAB: 1

IND: 0

RSD: 0

Agenda for

Campus Curricula

Committee Chair

Total: 3

Justification for

new course:

The increasing demand for buildings to meet certain performance criteria has fueled the interest of how building professionals determine a design that optimizes certain benchmarks. The case for commissioning a building is more and more tied to not only the predicted but the actual performance of the building's systems. This course will help future building professional determine effective means to measure a buildings performance.

Semester(s)

previously taught

Co-Listed

Courses:

Course Reviewer

**kleb6b (11/20/14 11:19 am):** Rollback: Rollback

Comments

Key: 4130

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 10/17/14 4:16 pm

Viewing: **ART 3001.TBD : Experimental Film & Video**

File: 4133

Last edit: 12/16/14 8:19 am

Changes proposed by: denises

Requested	Spring 2015
Effective Change	
Date	
Department	Arts, Languages, & Philosophy
Discipline	Art (ART)
Course Number	3001
Topic ID	TBD
Experimental	Experimental Film & Video
Title	
Experimental	Experimental Film
Abbreviated	
Course Title	
Instructors	Tohline, Andrew

#### Experimental Catalog Description

A free exploration of cinema history's most audacious, moving, and important avant-garde works in film and video, covering classic films by the likes of Stan Brakhage, Maya Deren, and Andy Warhol, as well as contemporary experiments in digital and animation. Students will get the chance to create their own experimental work, too.

#### Prerequisites

Art 1185 or a studio art course (such as Drawing, Painting, or Photography).

#### Field Trip Statement

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

#### In Workflow

1. RPHILOSO Chair
2. CCC Secretary
3. Arts & Humanities DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 11/03/14 2:23 pm  
lance: Approved for RPHILOSO Chair
2. 11/03/14 4:24 pm  
kleb6b: Approved for CCC Secretary
3. 11/03/14 4:46 pm  
ivliyeva: Approved for Arts & Humanities DSCC Chair
4. 11/05/14 3:52 pm  
kleb6b: Approved for Pending CCC Agenda post
5. 11/20/14 11:17 am  
kleb6b: Approved for CCC Meeting Agenda
6. 11/20/14 11:19 am

Justification for  
new course:  
Expansion of film curriculum.

Semester(s)  
previously taught  
None

Co-Listed  
Courses:

kleb6b: Rollback  
to CCC Meeting  
Agenda for  
Campus Curricula  
Committee Chair

Course Reviewer    **kleb6b (11/20/14 11:19 am):** Rollback: Rollback  
Comments

Key: 4133

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 10/01/14 10:08 am

Viewing: **MECH ENG 5001.TBD : Non-Intrusive Measurement Methods**

File: 4125

Last edit: 10/01/14 10:46 am

Changes proposed by: nisbett

Requested Spring 2015

Effective Change  
Date

Department Mechanical & Aerospace Engineering

Discipline Mechanical Engineering (MECH ENG)

Course Number 5001

Topic ID TBD

Experimental Non-Intrusive Measurement Methods  
Title

Experimental Non-Intrusive Measuremnt  
Abbreviated  
Course Title

Instructors Ed Kinzel

Experimental Fundamentals of non-contact measurement methods for engineers. Basic  
Catalog engineering optics with a focus on radiation measurement methods including the  
Description effects of various sources and detectors.

Prerequisites Phys 2135; Mech Eng 3525 or consent of instructor for non-Mech Eng majors.

Field Trip  
Statement

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

Justification for This is a topic of practical usefulness for engineers, particularly mechanical  
new course: engineers, and is in the research area of Dr. Kinzel.

Semester(s) None  
previously taught

Co-Listed  
Courses:

Course Reviewer  
Comments

#### In Workflow

1. RMECHENG Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 10/01/14 10:44 am  
drallmei:  
Approved for RMECHENG Chair
2. 10/01/14 10:46 am  
kleb6b: Approved for CCC Secretary
3. 10/13/14 10:05 am  
srafer: Approved for Engineering DSCC Chair

Key: 4125

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 09/25/14 11:10 am

Viewing: **MET ENG 3001.TBD : Applied Metal Forming**

File: 4123

Last edit: 11/05/14 3:54 pm

Changes proposed by: jnewkirk

Requested Spring 2015

Effective Change  
Date

Department Materials Science & Engineering

Discipline Metallurgical Engineering (MET ENG)

Course Number 3001

Topic ID TBD

Experimental Title  
Applied Metal Forming

Experimental Abbreviated  
Course Title  
Applied Metal Forming

Instructors Joseph W. Newkirk

Experimental Catalog Description  
Course will teach principles of metal forming using the traditional methods of the Blacksmith. Use of the forge for heating iron for working, use of the anvil for shaping, heat treating for properties, finishing operations, etc. will be covered. Safe use of tools and equipment. Students will work on standard project plans and also individual projects.

Prerequisites Met Eng 2110.

Field Trip  
Statement

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

Justification for new course: The new RSO, the Blacksmithing Club of Rolla, is opening a new forge shop this fall and proper instruction is necessary for safe and non-destructive use of the tools and equipment. The course will train students to be able to work independently in the shop in the future as well as maximize their experience in Blacksmithing. This course is directly analogous to the Applied Glass Forming course which serves the same purpose for the Glass Shop. This will provide another significant experiential learning opportunity for Missouri S&T students.

Semester(s) previously taught N/A

Co-Listed  
Courses:

#### In Workflow

1. RMATSENG Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 09/25/14 1:55 pm huebner: Approved for RMATSENG Chair
2. 09/25/14 2:18 pm kleb6b: Approved for CCC Secretary
3. 10/13/14 10:06 am sraper: Approved for Engineering DSCC Chair

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Course Reviewer	<b>sraper (10/13/14 10:06 am):</b> I removed "or permission of instructor." as I recall the
Comments	CCC has made it a policy not remove that statement. If not, the pre req was originally Met Eng 2110; or permission of instructor.

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Key: 4123



## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 10/20/14 4:07 pm

Viewing: **MIN ENG 6001.TBD : Mineral Industry Environmental Considerations**

File: 4136

Last edit: 12/16/14 8:20 am

Changes proposed by: jrussell

Requested	Spring 2015
Effective Change Date	
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	6001
Topic ID	TBD
Experimental Title	Mineral Industry Environmental Considerations
Experimental Abbreviated Course Title	Min Ind Enviro Consider
Instructors	David Weiss

#### Experimental Catalog Description

Mineral Industry projects can impact the environment, and public health and safety. Regulatory approval of a proposed action requires compliance with the National Environmental Policy Act (NEPA). The student will learn to identify impacts, determine their significance and develop mitigation measures for those impacts through the NEPA process.

Prerequisites Min Eng 4742 or equivalent.

Field Trip Statement None

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
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#### In Workflow

1. RMINNUCL Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 10/20/14 4:24 pm  
frimpong: Approved for RMINNUCL Chair
2. 10/21/14 7:47 am  
kleb6b: Approved for CCC Secretary
3. 11/04/14 2:42 pm  
sraper: Approved for Engineering DSCC Chair
4. 11/05/14 3:57 pm  
kleb6b: Approved for Pending CCC Agenda post

Justification for      Instructor request  
new course:

Semester(s)  
previously taught

Co-Listed  
Courses:

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Course Reviewer  
Comments

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Key: 4136

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 10/01/14 3:29 pm

Viewing: **MS&E 5001.TBD : Integrated Computational Materials Engineering**

File: 4127

Last edit: 12/16/14 8:21 am

Changes proposed by: smiller

Requested	Spring 2015
Effective Change Date	
Department	Materials Science & Engineering
Discipline	Materials Science & Eng (MS&E)
Course Number	5001
Topic ID	TBD
Experimental Title	Integrated Computational Materials Engineering
Experimental Abbreviated Course Title	ICME
Instructors	Mohsen Asle Zaeem

#### Experimental Catalog Description

Introduction to different computational tools for studying materials at different length scales. Several atomistic, mesoscale and continuum models will be introduced and bridging between different modeling scales will be discussed. The course includes computer lab sessions to build models for solidification, solid state phase tranformation, etc.

Prerequisites Met Eng 2120 and Math 3304.

Field Trip Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
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#### In Workflow

1. **RMATSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 10/01/14 3:48 pm huebner: Approved for RMATSENG Chair
2. 10/01/14 4:16 pm kleb6b: Approved for CCC Secretary
3. 10/13/14 10:06 am sraper: Approved for Engineering DSCC Chair
4. 11/05/14 3:59 pm kleb6b: Approved for Pending CCC Agenda post

Justification for new course: Offer course as replacement for previously offered Materials Selection technical elective course

Semester(s) previously taught Spring 2014

Co-Listed Courses:

Course Reviewer  
Comments

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Key: 4127

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 10/01/14 3:33 pm

Viewing: **MS&E 6001.TBD : Advanced Integrated Computational Materials Engineering**

File: 4128

Last edit: 10/13/14 10:10 am

Changes proposed by: smiller

Requested Spring 2015

Effective Change  
Date

Department Materials Science & Engineering

Discipline Materials Science & Eng (MS&E)

Course Number 6001

Topic ID TBD

Experimental Title Advanced Integrated Computational Materials Engineering

Experimental Abbreviated Course Title Adv ICME

Instructors Mohsen Asle Zaeem

Experimental Catalog Description Advanced study of different computational tools for studying materials at different length scales. Several atomistic, mesoscale and continuum models will be discussed and bridging between different modeling scales will be discussed. The course includes computer lab sessions to build models for solidification, solid state phase tranformation, etc.

Prerequisites Met Eng 2120 and Math 3304 or permission of the instructor.

Field Trip Statement

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

Justification for new course: Offer course as replacement for previously offered graduate level Materials Selection course

Semester(s) previously taught Spring 2014

Co-Listed Courses:

Course Reviewer Comments **sraper (10/13/14 10:10 am):** there was a question form the DSCC committee about the difference between MS&E 5001 and this form. Scott Miller replied: "The two

#### In Workflow

1. **RMATSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 10/01/14 3:48 pm huebner: Approved for RMATSENG Chair
2. 10/01/14 4:17 pm kleb6b: Approved for CCC Secretary
3. 10/13/14 10:10 am sraper: Approved for Engineering DSCC Chair

courses will be taught at the same days and times, but the graduate students enrolled in the 6001 course are expected to do semester research project in (sic) addition to the other assignments that all students will complete, and the 6001 students will submit a final report on their semester project to the instructor and present to both classes." He also confirmed that the 6001 course does not need the 5001 course as a prerequisite.

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Key: 4128

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 08/04/14 9:58 am

Viewing: **NUC ENG 6001.TBD : Neutron Transport Theory**

File: 4102

Last edit: 10/16/14 11:27 am

Changes proposed by: xinliu

Requested Spring 2015

Effective Change  
Date

Department Mining & Nuclear Engineering

Discipline Nuclear Engineering (NUC ENG)

Course Number 6001

Topic ID TBD

Experimental Neutron Transport Theory  
Title

Experimental Neutron Transport Theory  
Abbreviated  
Course Title

Instructors Xin Liu

Experimental The objective of this course is to introduce the student to neutron transport theory.  
Catalog The main content of this course are derivation and physical interpretation of the  
Description linearized Boltzmann equation, numerical solution and methodology including Pn approximation, Sn method, Method of Characteristics, etc.

Prerequisites Nuc Eng 4203.

Field Trip  
Statement

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

Justification for Neutron transport theory within the context of nuclear reactor physics is a very  
new course: important area for advanced nuclear engineering research and education. Currently,  
there is no such course offered in our Nuclear Engineering program. This course will  
enhance our graduate students' ability in the areas of reactor physics, numerical  
simulation, and hands-on experience of large computer simulation codes for reactor  
core simulations.

Semester(s) None  
previously taught

Co-Listed  
Courses:

Course Reviewer **srapr (08/12/14 9:20 am):** Rollback: Requested change date cannot be Fall 2014.

#### In Workflow

1. RMINNUCL Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

#### Approval Path

1. 08/04/14 10:20 am  
frimpong:  
Approved for  
RMINNUCL Chair
2. 08/04/14 10:35 am  
kleb6b: Approved  
for CCC Secretary
3. 08/12/14 9:20 am  
srapr: Rollback  
to RMINNUCL  
Chair for  
Engineering DSCC  
Chair
4. 10/16/14 11:21 am  
frimpong:  
Approved for  
RMINNUCL Chair
5. 10/16/14 11:27 am  
kleb6b: Approved  
for CCC Secretary
6. 11/04/14 2:42 pm  
srapr: Approved  
for Engineering  
DSCC Chair

## Comments

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Key: 4102



# Course Inventory Change Request

## New Experimental Course Proposal

Date Submitted: 10/29/14 1:55 pm

Viewing: **TCH COM 3001.TBD : Business Writing**

File: 4139

Last edit: 12/16/14 8:22 am

Changes proposed by: malonee

Requested	Spring 2015
Effective Change	
Date	
Department	English and Technical Communication
Discipline	Technical Communication (TCH COM)
Course Number	3001
Topic ID	TBD
Experimental	Business Writing
Title	
Experimental	Business Writing
Abbreviated	
Course Title	
Instructors	Jeanne Allison, Ed Malone

### Experimental Catalog Description

This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for business and professional settings. Writing assignments may include business correspondence, reports, resumes, proposals, analyses, and feasibility studies.

### Prerequisites

English 1120 or equivalent and at least junior standing.

Field Trip	n/a
Statement	

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
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Justification for new course:	1. We will be sharing this course with UMSL. In some semesters, UMSL's Dr. Jeanne Allison will teach it (with Dr. Ed Malone as instructor of record at S&T); in other
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### In Workflow

1. **REGLISH Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. Registrar

### Approval Path

1. 10/29/14 2:06 pm  
kswenson:  
Approved for  
REGLISH Chair
2. 10/29/14 2:44 pm  
kleb6b: Approved  
for CCC Secretary
3. 10/29/14 4:34 pm  
ivliyeva:  
Approved for Arts  
& Humanities  
DSCC Chair
4. 11/05/14 4:03 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

semesters, Malone or another English/tech com professor will teach it (with Dr. Allison or Dr. Bill Klein as instructor of record at UMSL). Our course-sharing project -- and the UM System course-sharing initiative in general -- are predicated on the sharing of the same or a similar course at both institutions. Thus, one of the reasons we are creating this course is for potential long-term course-sharing purposes. Our approved and funded course-sharing proposal had all of the required signatures of campus and system administrators.

2. Even if the course-sharing project does not succeed and does not continue long-term, we wish to have this course on the books (i.e., in our curriculum) because it fills a gap. Although business writing is an important part of several of our courses (e.g., ENGL/TCH COM 1600), we do not have a course devoted to business writing, and there is a need for a course.

Semester(s)	This course in business writing has not been offered at S&T in the past, but it has
previously taught	been offered for many years in UMSL's English department and has been quite successful.

Co-Listed  
Courses:

Course Reviewer  
Comments

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Key: 4139

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 10/29/14 2:04 pm

Viewing: **TCH COM 3001.TBD : Writing in the Sciences**

File: 4140

Last edit: 12/16/14 8:23 am

Changes proposed by: malonee

Requested Spring 2015

Effective Change

Date

Department English and Technical Communication

Discipline Technical Communication (TCH COM)

Course Number 3001

Topic ID TBD

Experimental Writing in the Sciences  
Title

Experimental Writing in the Sciences  
Abbreviated  
Course Title

Instructors Bill Klein, Ed Malone

Experimental  
Catalog  
Description

This course is designed to teach students how to write effectively in the sciences. Writing assignments include short reports, proposals, and a major project such as a research or analytical report or a procedures/instructions manual. Emphasis is placed on clarity, conciseness, organization, format, style, and tone.

Prerequisites

English 1120 or equivalent and at least junior standing.

Field Trip  
Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
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Justification for new course: 1. We will be sharing this course with UMSL. In some semesters, UMSL's Dr. Bill Klein will teach it (with Dr. Ed Malone as instructor of record at S&T); in other semesters,

#### 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. Registrar

#### Approval Path

1. 10/29/14 2:06 pm  
kswenson:  
Approved for  
RENLISH Chair
2. 10/29/14 2:45 pm  
kleb6b: Approved  
for CCC Secretary
3. 10/29/14 4:34 pm  
ivliyeva:  
Approved for Arts  
& Humanities  
DSCC Chair
4. 11/05/14 4:04 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Malone or another English/tech com professor will teach it (with Dr. Klein or Dr. Allison as instructor of record at UMSL). Our course-sharing project -- and the UM System course-sharing initiative in general -- are predicated on the sharing (in each case) of the same or a similar course at both institutions. Thus, one of the reasons we are creating this course is for potential long-term course-sharing purposes. Our approved and funded course-sharing proposal had all of the required signatures of campus and system administrators.

2. Even if the course-sharing project does not succeed and does not continue long-term, we wish to have this course on the books (i.e., in our curriculum) because it fills a gap. Although writing in the sciences is an important part of several of our courses, we do not have a course devoted to writing in the sciences, and there is a need for such a course.

Semester(s)	This course in writing in the sciences has not been offered at S&T in the past, but it
previously taught	has been offered for many years in UMSL's English department and has been quite successful.

Co-Listed  
Courses:

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Course Reviewer  
Comments

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Key: 4140