Minutes
Campus Curricula Committee Meeting
December 5, 2012
12 p.m., Room 117 Fulton Hall

Attendees: Lahne Black, Barry Flachsbart, Irina Iviyeva, Keith Nisbett, Steve Raper, Tom Schuman, Daniel Tauritz, and Jennifer Thorpe.

The committee approved the following meeting dates for Spring 2013.
- January 15, 10:00-11:00 am
- February 6, 12:00-1:00 pm
- March 6, 12:00-1:00 pm
- April 3, 12:00-1:00 pm
- May 8, 12:00-1:00 pm

The following curriculum forms were discussed and approved:

**Degree Change Forms:**
- DC #0417
- DC #0419
- DC #0420
- DC #0429
- DC #0432
- DC #0433

**Course Change Forms:**
- CC #8284
- CC #8285
- CC #8305
- CC #8306
- CC #8308
- CC #8309

**Experimental Course Forms:**
- EC #2438
- EC #2440
- EC #2442
- EC #2444

The committee voted to table the items below for further action/clarification to be provided by the academic department responsible for each:
- DC #0430, History, Bachelor of Arts/History Teacher Education Program.
- CC #8307, Explosives Engineering 411, Research Methods.
The following forms were withdrawn by the academic department responsible for each:
CC #8280, Computer Engineering 415, Advanced Computer Architecture II.
CC #8281, History 396, History Research Seminar.
CC #8282, Engineering Management 482, Financial Engineering II.

The meeting adjourned at 1:10 p.m.

Daniel Tauritz, Chair
Missouri S&T Campus Curricula Committee
Effective Year: 2013
Effective Term: Summer ☐ Fall xx ☐ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:
Engineering Management

Department: EMSE

Briefly describe action requested (Attach documentation as appropriate):
Add EMSE 213 (new 3 credit hour course CC submitted with this request) to the current 26 credit hours of required Engineering Management core courses. Concurrent to this change, the Industrial Engineering, Management of Technology and General Emphasis areas will remove 3 credit hours of EMSE technical electives (Separate DC forms submitted with this request). See attached documentation.

Recommended by Department: [Signature]
Date: 2/27/12

Recommended by: [Signature]
Discipline Specific Curricula Committee
Date: 8/26/12

Approved by Curricula Committee: [Signature]
Date: 12/7/2012

Approved by Faculty Senate: [Signature]
Date: ______

02/27/12

(Revised 9/12/2011)
# Bachelor of Science Engineering Management

**Student Checklist - FS 2013 - Catalog 128 Hours**

## Freshman Year

<table>
<thead>
<tr>
<th>First Semester</th>
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<th>Hours</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
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<td>4</td>
</tr>
<tr>
<td>Chem 2 General Chemistry Lab</td>
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<td>4</td>
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<td>Engl 20 Exposition and Argumentation</td>
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<td></td>
</tr>
<tr>
<td>Hist 112, 175, 176 or Pol Sci 90</td>
<td></td>
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<td>Psych 50 - General Psychology</td>
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<tr>
<td><strong>Total Hours:</strong> 16</td>
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<tbody>
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<td>Eng Mg 266 - Quality Philosophies &amp; Methods</td>
<td>3</td>
</tr>
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<td>Eng Mg 251 - Marketing Management</td>
<td>Eng Mg 254 - Project Management</td>
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<td>IDE 110 - Mechanics of Materials</td>
<td>Eng 281 - Electrical Circuits</td>
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<td>Free Elective</td>
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**Comments:**
Effective Year: 2013
Effective Term: Summer ☐ Fall xx ☐ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:
Industrial Engineering Emphasis Area

Department: EMSE

Briefly describe action requested (Attach documentation as appropriate):
The Industrial Engineering Emphasis area credit hour requirements will change from 21 credit hours to 18 credit hours. This change is being made in order to add a new 3 credit hour course (EMSE 213) to the current 26 credit hours of EMSE required core courses. The 12 credit hours of required courses (EMSE 257, 311, 356 and 392) will not change. The EMSE technical electives will be reduced to 6 credit hours from the current required 9 credit hours. This change enables EMSE to maintain 3 credit hours of Free Electives as a part of the 128 required credit hours.

Recommended by Department: ____________________________ (Chair signature)  Date: 2/27/12

Recommended by: ____________________________
Discipline Specific Curricula Committee (Chair signature)  Date: 8/26/12

Approved by Curricula Committee: ____________________________ (Chair signature)  Date: 12/7/2012

Approved by Faculty Senate: ____________________________ (Chair signature)  Date:  

02/27/12  (Revised 9/12/2011)
# Bachelor of Science Engineering Management
## Student Checklist - FS 2013 - Catalog 128 Hours
### Industrial Engineering Emphasis

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<td>Eng Mg 134 - Management Eng &amp; Technology</td>
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<td>Eng Mg 356 - Ind Sys Simulation</td>
<td>Eng Mg 299 - Senior Design</td>
</tr>
<tr>
<td>Eng Mg 382 Intro to Ops Research</td>
<td>Eng Mg 257 - Mas Hndl &amp; Plant Layout</td>
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<td>Eng Mg 311 - Human Factors</td>
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### Comments:
Effective Year: 2013
Effective Term: Summer ☐ Fall xx ☐ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:
General Emphasis Area

Department: EMSE

Briefly describe action requested (Attach documentation as appropriate):
The General Emphasis area credit hour requirements will change from 21 credit hours to 18 credit
hours. This change is being made in order to add a new 3 credit hour course (EMSE 213) to the
current 26 credit hours of EMSE required core courses. The 15 credit hours Engineering Area
Courses (Engineering Discipline) will remain the same. The EMSE technical electives will be
reduced to 3 credit hours from the current required 6 credit hours. This change enables EMSE to
maintain 3 credit hours of Free Electives as a part of the 128 required credit hours.

Recommended by Department:          Date: 3/8/12
                                      (Chair signature)

Recommended by:                       Date: 8/12/12
Discipline Specific Curricula Committee (Chair signature)

Approved by Curricula Committee:     Date: 12/7/2012
                                      (Chair signature)

Approved by Faculty Senate:          Date: __________
                                      (Chair signature)

02/27/12

(Revised 9/12/2011)
Bachelor of Science Engineering Management
Student Checklist - FS 2013 - Catalog 128 Hours

General Engineering Emphasis

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Comments:


Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:
Change of "Free Elective Footnote" paragraph, page 139 of current catalog
and
Change of Footnote 3 in current catalog - Free Electives
BS in ENG MGT
Department: EMSE

Briefly describe action requested (Attach documentation as appropriate):

The second sentence of the Free Elective Footnote paragraph currently states: "Each student is required to take six hours of free electives in consultation with his/her academic advisor."

The second sentence should be changed to: "Each student is required to take three hours of free electives in consultation with his/her academic advisor." The remaining sentences in the paragraph should remain the same.

The first sentence of Footnote 3 currently states the following: "Each student is required to take six hours of free electives in consultation with his/her academic advisor."

The first sentence should be changed to the following: "Each student is required to take three hours of free electives in consultation with his/her academic advisor." and

The remaining sentences/statements of the Footnote 3 will remain the same.

Recommended by Department: [Signature]

Date: 3/28/12

Recommended by: [Signature]
Discipline Specific Curricula Committee

Date: 8/26/12

Approved by Curricula Committee: [Signature]

Date: 12/3/2011

Approved by Faculty Senate: [Signature]

Date: 

03/28/12

(Revised 9/12/2011)
# Bachelor of Science Engineering Management

**Student Checklist - FS 2013 - Catalog 128 Hours**

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Comments:
courses. Any courses outside of engineering and science must be at least three credit hours.

FRESHMAN YEAR
First Semester
FE 10—Study and Careers in Engineering 1
Chem 1-General Chemistry 4
Chem 2-General Chemistry Lab 1
Chem 4—Intro to Lab Safety 1
Math 14—Calc I for Eng 4
English 20—Expo & Argument 3
Hist 112, 175, 176, or Pol Sc 90 17

Second Semester
IDE 20—Intro to Eng Design 3
Math 15—Calc II for Eng 4
Phys 23—Eng Physics I 4
Econ 121 or 122—Prin of Micro or Macro 3
Humanities Elective 2 17

SOPHOMORE YEAR
First Semester
Math 22—Calc w/Analytic Geometry III 4
Physics 24—Eng Physics II 4
CE 50—Statics I or Comp Sys 6 3
Eng Mg 134—Managing Engineering & Technology 3
Eng Mg 137—Economic Analysis 2 16

Second Semester
Math 204—Diff Equat 3
Stat 215—Eng Stats or Stat 217—Intro to Prob 3
Comp Sc 74—Intro to Comp Math 3
Comp Sc 76—Prog Method—Lab 3
IDE 150—Eng Mech—Dyn 2
Eng Mg 147—Eng Mgt Acct&Fin 1
Psych 50—Gen Psych 3 17

JUNIOR YEAR
First Semester
Eng Mg 253—Operations & Prod Mgt 3
CE 110—Mechanics of Materials 3
CE 120—Materials Testing 1
Eng Mg 251—Marketing Mgt 2
Eng Mg 254—Project Mgt 3
Sp&M 85 or 181 3 16

Second Semester
Eng Mg 266—Quality Phil & Methods 3
Mc Eng 227—Thermal Analysis 3
El Eng 281—Electrical Circuits 3
English 160—Technical Writing 3
Emphasis Area Required Course 3
Emphasis Area Required Course 15

SENIOR YEAR
First Semester
Emphasis Area Required Course 3
Emphasis Area Required Course 3
Eng Mg 260—Gen Mgt Design & Integ 3
Eng Mg Technical Elective 3
Elect-Elective 3
Emphasis Area Required Course 15

Second Semester
Eng Mg Technical Elective 3
Eng Mg Technical Elective 3
Eng Mg 299—Senior Design 3
Upper Level Hum/SS 3
Emphasis Area Required Course 3
PCE Elective 15

Example Emphasis Area Programs for Engineering Management Students
One unique aspect of the Engineering Management degree is the student’s ability to select an established emphasis area or create a specialized emphasis. Two examples of established emphasis areas are shown below.

Management of Technology
Eng 352—Ind Sys Simulation 3
Eng Mg 257—Management Decision Making 3
Eng Mg 320—Technical Entrepreneurship 3
Eng Mg 327—Legal Environment 3
Eng Mg—Technical Electives 3
(Consultation with your advisor)

Industrial Engineering
Eng Mg 257—Mat Handling/Plant Layout 3
Eng Mg 311—Human Factors 3
Eng Mg 356—Ind Sys Sim 3
Eng Mg 382—Intro Oper Res 3
Eng Mg Technical Electives 3
(Consultation with your advisor)

General
Engineering Area Courses (Engineering Discipline) 1.5
Eng Mg—Technical Elective 3

NOTE: All electives must be chosen in consultation with the student’s advisor. Students must satisfy the common engineering freshman year course requirements in addition to the sophomore, junior, and senior year requirements listed above with a minimum of 128 hours.

1) Must have a grade of "C" or better in these courses for graduation. Math 8 and 21 may be substituted for Math 14 and 15, respectively.

2) Humanities and Social Science 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.

3) 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.
Engineering Management Courses

101 Special Topics (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.

124 Principles of Engineering Management (LEC 1.0) This course is an introduction to engineering management principles and concepts and will address issues that are relevant to today's successful engineering managers. Topics covered include management practices; communications; working in teams; project management; ethics and societal issues; and life long learning.

131 Accounting II (LEC 3.0) Accounting for the partnership and the corporation, consideration of cost and departmental accounting. Prerequisite: Eng Mgt 130.

134 Managing Engineering And Technology (LEC 3.0) Introduces the management functions of planning, organizing, motivating, and controlling. Analyzes the application of these functions in research, design, production, technical marketing, and project management. Studies the evolution of the engineering career and the transition to engineering management. Prerequisite: A grade of "C" or better is required in this course to meet Engineering Management degree requirements.

137 Economic Analysis of Engineering Projects (LEC 2.0) Engineering project analysis from an engineering economics perspective. Topics include: interest, equivalent worth, comparing alternatives, rate of return methods, depreciation and taxes, inflation and price changes, benefit-cost analysis and risk analysis. Prerequisite: Math 15.

147 Engineering Accounting and Finance (LEC 3.0) This course is designed to introduce the fundamentals of accounting and finance and provide the student with tools used in making financial decisions within a technically based enterprise. Prerequisite: Eng Mgt 137.

201 Special Topics (Variable 0.0-6.0) This course is designed to give the department an opportunity to test a new course. Variable title.

202 Cooperative Engineering Training (IND 0.0-6.0) On-the-job experience gained through cooperative education with industry, with credit arranged through departmental cooperative advisor. Grade received depends on quality of reports submitted and work supervisors evaluation.

208 Engineering Economy (LEC 3.0) Techniques for capital investment decision making; time-value of money and the concept of equivalence, multiple alternatives, replacement criteria, and cost of capital depreciation.

209 Engineering Economy And Management (LEC 3.0) Engineering economy topics include equivalence; present worth; annual and rate of return analysis; depreciation; and taxes. Engineering management topics include planning, organizing, motivation, controlling and their applications in design and manufacturing.

224 Competition Team Design (LAB 1.0) Students will participate in a significant design activity as part of one of the experiential learning design team projects. Design activity will be reported and assessed at the end of the semester through a design report and oral presentation. Prerequisite: Sophomore (or greater) standing and membership in an experiential learning design team.

230 Management Accounting Systems (LEC 3.0) The course is designed to introduce the theory and practice of accounting, and to study the flows of accounting information through the business firm. Topics are the fundamentals of accounting, technology of accounting information systems, and accounting system applications. Prerequisite: A grade of "C" or better is required in this course to meet Engineering Management degree requirements.

233 Competition Team Leadership (LEC 1.0) Students will participate in open lecture on team based management and leadership as it pertains to ongoing project activities. Project activity reports will be generated using real project data and assessed at the end of the semester through a project master plan and oral presentation. Prerequisite: Sophomore (or greater) standing and leadership role in an experiential learning design team or nomination by an experiential learning team advisor.

242 Competition Team Communication (LEC 0.5 and LAB 0.5) Communication skills, both technical and promotional, will be covered. Students will practice both communication skills in written, oral and media-based modes. Specific activities will include writing a proposal for funding, developing a promotional media piece and speaking to external groups about a SDELC team. Assessment will be made on each of the deliverables. Prerequisite: Sophomore (or greater) standing and membership in an experiential learning design team.

251 Marketing Management (LEC 3.0) Study of basic functions of marketing in the technological enterprise, including product selection and development, market research, market development, selection of distribution channels and advertising, marketing strategy. Prerequisite:
Effective Year: 2013

Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:
Minor in Sustainable Business

Department: Business and Information Technology

Briefly describe action requested (Attach documentation as appropriate):

The minor in Sustainable Business is being changed to add BUS 340 to the list of required courses and to move BUS 315 to the list of elective courses. All other required and elective courses remain the same.

The new requirements are:
1) BUS 110 - Management and Organizational Behavior
2) BUS 330 - Foundations of Sustainable Business
3) BUS 340 - Introduction to Business Innovation for Sustainability
4) and two courses from the following:
   ERP 348 - Strategic Enterprise Management Systems
   EnvE 360 - Environmental Law and Regulations
   EnvE 365 - Sustainability, Population, Energy, Water, and Materials
   Psych 315 - Environmental Psychology
   Econ 340 - Environmental and Natural Resource Economics
   Econ 355 - Energy Economics
   Pol Sci 350 - The Politics of the Third World
   Hist 361 - American Environmental History
   BUS 315 - Introduction to Teambuilding and Leadership in a Business Setting

At least 6 hours of the minor course work must be taken in residence at Missouri S&T.

Recommended by Department: [Signature]  Date: 10/24/12

Recommended by: [Signature]  Date: 10/25/2012
Discipline Specific Curricula Committee

Approved by Curricula Committee: [Signature]  Date: 12/7/2012

Approved by Faculty Senate: [Signature]  Date: 

(Revised 9/12/2011)
Effective Year: FS2013
Effective Term: Summer □ Fall X Spring □
(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:
Minor in Computer Engineering

Department: Electrical & Computer Engineering

Briefly describe action requested (Attach documentation as appropriate):
Create a Minor in Computer Engineering with the requirements noted below.
The Cp Eng Minor will be noted on the student's transcript.

The catalog description for the CpE Eng Minor is given in the attached document.

Minor was approved by the Cp Eng Curriculum Committee on August 31, 2012.

Recommended by Department:  
(Ken Eshoo) (Chair signature)  
Date: 2/9/2012

Recommended by Discipline Specific Curricula Committee:  
(Chair signature)  
Date: 2/1/2012

Approved by Curricula Committee:  
(Daniel Jant) (Chair signature)  
Date: 12/9/2012

Approved by Faculty Senate:  
(Chair signature)  
Date: _____

10/25/12

(Revised 1/31/2008)
The catalog description for the minor will be added as follows.

Computer Engineering Minor Curriculum
A minor in Computer Engineering will require the following:
Pass the El Eng Advancement Exam I (El Eng 151 Final) with a C or better* 
Pass the Cp Eng Advancement Exam (Cp Eng 111) with a C or better**
Pass Cp Eng 213, with a C or better
Pass El Eng 121 or Cp Eng 215, with a C or better
Pass Cp Eng 319 or Cmp Sc 365, with a C or better
Pass 3 hours of 3xx Cp Eng or El Eng or Cmp Sc coursework with a C or better, excluding special problems and undergraduate research. Transfer courses cannot be used to satisfy this requirement. The course choice for this requirement is subject to the approval of the minor advisor.

*One opportunity will be given to pass the El Eng Advancement Exam I if a student has prior course or experience in circuits. Otherwise, the student must pass El Eng 151.
**One opportunity will be given to pass the Cp Eng Advancement Exam if a student has prior course or experience in digital circuits. Otherwise, the student must pass Cp Eng 111.
Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)
- New Course [ ]
- Course Title [ ]
- Course Deletion [ ]
- Credit Hours [ ]
- Course Title [ ]
- Catalog Description [ ]
- Prerequisites [ ]
- Course Number [ ]
- Co-listing [ ]

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

1. Department: EMSE

2. Discipline and Course Number: Present: SysEng 378 Proposed:

3. Course Title: Present: Introduction to Neural Networks & Applications Proposed:
   Abbreviated Course Title: (24 Spaces or Less. Only needed for New Courses or Title Changes.)
   Proposed:

4. Catalog Description (300 Character Spaces or Less.)
   Present: Introduction to artificial neural network architectures, adaline, madaline, back propagation, BAM, and Hopfield memory, counterpropagation networks, self organizing maps, adaptive resonance theory, are the topics covered. Students experiment with the use of artificial neural networks in engineering through semester projects.
   Proposed:

5. If course requires field trip check box: [ ]

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

7. Prerequisites:
   Present: Math 204 or 229.
   Proposed: Math 204 or 229; and graduate standing.

8. Required for Majors: [ ]
   Elective for Majors: [ ]

9. Justification: Simplify prerequisites, present list is redundant.

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

11. List all co-listed courses, initiated by Dept. Chair, if signature does not appear below.
   1) ECE368
   2)
   3) FTE638

   Recommended by Department

   Recommended by Discipline Specific Curricula Committee

   Approved by Curricula Committee:

   Approved by Faculty Senate:

   Date: 9/18/12
   Date: 9/16/12
   Date: 10/3/12
   Date: 12/30/10

(Revised 1/29/10)
Course Change Form (CC)

This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)
- New Course □
- Course Deletion □
- Credit Hours □
- Prerequisites X
- Course Title □
- Catalog Description □
- Course Number □
- Co-listing □

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

1. **Department:** Eng. Mgmt. & Sys. Eng.

2. **Discipline and Course Number:**
   - Present: EMgt 481
   - Proposed:

3. **Course Title:**
   - Present: Financial Engineering
   - Proposed:

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

4. **Catalog Description (40 Words or Less)**
   - Present:
     An introduction to financial engineering, with an emphasis on financial derivatives, including the future markets, the pricing of forwards and futures, forward rate agreements, interest and exchange rate futures, swaps, the options markets, option strategies, the binomial and Black-Scholes models for option valuation, the option Greeks, and volatility smiles.
   - Proposed:

5. **If course requires field trip check box:** □

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

7. **Prerequisites:**
   - Present: Eng Mgt 308, Eng Mgt 352; Eng Mgt 480 or Sys Eng 480 or equivalent.
   - Proposed: Eng Mgt 137 or 308

8. **Required for Majors:** □
   - **Elective for Majors:** □

9. **Justification:** EMgt 352 is no longer offered.

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

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

   1) Sys Eng 481
   2) 3) 4)
   5) 6)

   **Recommended by Department**

   Dated: 9/13/12

   **Recommended by Discipline Specific Curricula Committee**

   Dated: 9/13/12

   **Approved by Curricula Committee:**

   Dated: 9/13/12

   **Approved by Faculty Senate:**

   Dated: 9/13/12

   **All signatures:**

   **Date:** 9/13/12

   **Revised 1/31/08**

   **From: 573 341 4362  Page: 17/25  Date: 12/7/2012 1:06:29 PM**
Course Change Form (CC)
This form is for creating or modifying permanent courses.

**Course Changes** (Check all changes.)
New Course □ Course Deletion □ Credit Hours □ Prerequisites □
Course Title □ Catalog Description □ Course Number □ Co-listing □

**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)
1. Department: GSE
2. Discipline and Course Number: Present : Pet Eng 366 Proposed:
3. Course Title: Present: Mechanical Earth Modeling
   Proposed:
   Abbreviated Course Title:
   (24 Spaces or Less. Only needed for New Courses or Title Changes.)
4. Catalog Description (300 Character Spaces or Less.)
   Present:
   Proposed:

5. If course requires field trip check box: □
6. Credit Hours:
   Present: Lecture: 3 Lab: 0 Total: 3
   Proposed: Lecture: Lab: Total:
7. Prerequisites:
   Present: Pet Eng 232 or Geology 220 or Min Eng 232
   Proposed: Pet Eng 232 and Geology 220
8. Required for Majors: □ Elective for Majors: □
9. Justification: Min Eng 232 is not offered anymore. Both Pet Eng 232 and Geology 220 provide crucial introductions to this class.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):
11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.
   1) 2) 3) 4) 5) 6)

   Recommended by Department
   Recommended by Discipline Specific Curricula Committee
   Approved by Curricula Committee: (Chair signature)
   Approved by Faculty Senate: (Chair signature)

Date: 10-2-12
Date: 10-25-12
Date: 12-7-12

(Revised 1/29/09)
Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes
(Check all changes.)
New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information
(1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)
1. Department: GSE
2. Discipline and Course Number: Present: Pet Eng 232 Proposed:
3. Course Title: Present: Well Logging Proposed:
   Abbreviated Course Title:
   (24 Spaces or Less. Only needed for New Courses or Title Changes.)
4. Catalog Description (300 Character Spaces or Less.)
   Present:
   Proposed:
5. If course requires field trip check box: ☐
6. Credit Hours:
   Present: Lecture: 3       Lab: 0       Total: 3
   Proposed: Lecture:       Lab:       Total:
7. Prerequisites:
   Present: Physics 24 or 25
   Proposed: Physics 24 or 25,
             Pet Eng 241
8. Required for Majors: ☒ Elective for Majors: ☐
9. Justification: Too many sophomores who do not understand fundamentals of rock properties take the class and are struggling.

10. Semesters previously offered as an experimental course (101, 201, 301, 401):
11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.
   1)  2)  3)
   4)  5)  6)
   Recommended by Department:
   Recommended by Discipline Specific Curricula Committee:
   Approved by Curricula Committee:
   Approved by Faculty Senate:

(Chair signature)
(Chair signature)
(Chair signature)

Date: 10-2-12
Date: 10-25-12
Date: 12-3-2012
Date:

(Revised 1/29/09)
Effective Year: 2013
Term: Summer ☐ Fall ☐ Spring ☐

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)
New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐
Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)
1. Department: English and Tech Com
2. Discipline and Course Number: Present: Tech Com 3XX Proposed: Tech Com 325
3. Course Title: Present:
   Proposed: Help Authoring
Abbreviated Course Title: Help Authoring
(24 Spaces or Less. Only needed for New Courses or Title Changes.)
4. Catalog Description (300 Character Spaces or Less.)
   Present:
   Proposed: Students will acquire the technological and rhetorical skills necessary for creating effective online help systems, including context-sensitive help for computer applications.

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

7. Prerequisites:
   Present:
   Proposed:
One semester of college writing or technical writing.

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

10. Semesters previously offered as an experimental course (101, 201, 301, 401): SP09, SP10, SP12
11. List all co-listed courses, initiated by Dept. Chair, if signature does not appear below.

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

   Recommended by Department
   Recommended by Discipline Specific Curricula Committee
   Approved by Curricula Committee:
   Approved by Faculty Senate:

   (Chair signature) Date: 12/7/2012
   (Chair signature) Date: 10/24/11
   (Chair signature) Date: 1/17/2012
   (Chair signature)

(Revised 1/29/09)

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Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes
(Check all changes.)

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

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

1. Department: Chemical and Biochemical Eng
2. Discipline and Course Number: Present: CHE 433 Proposed: CHE 433
3. Course Title: Present: Advanced Transport Phenomena
   Proposed: Advanced Transport Phenomena

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

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

5. If course requires field trip check box: □

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

7. Prerequisites:
   Present: none
   Proposed: CHE 335

8. Required for Majors: □  Elective for Majors: □

9. Justification:
   Graduate students are taking CHE 433 with none or inadequate background

10. Semesters previously offered as an experimental course (101, 201, 301, 401):
11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.
   1)  2)  3)
   4)  5)  6)

Recommended by Department:

Recommended by Discipline Specific Curricula Committee:

Approved by Curricula Committee:

Approved by Faculty Senate:

Date: 10/13/12
Date: 10/19/12
Date: 12/7/12
Date: ______
Experimental Course Form (EC)

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

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

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

Department: Geological Sciences and Eng

Discipline and Course Number: GE301

Course Title: Hydrologic Flow, Reaction and Transport Modeling

Abbreviated Title (24 spaces or less): Hydrologic Modeling

Instructor(s): Shadab Anwar

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

Prerequisites: Phys, Calculus, Civ Eng 215; GeoEng 275, 335

Semester(s) previously taught: 0

Brief Course Description: (40 words or less)
This course is an introduction to advanced modeling techniques for simulating flow, transport, and reaction processes in porous media under different hydrologic conditions. Emphasis is placed on both theoretical and practical modeling considerations. Computer demonstrations are incorporated. Practical applications are emphasized.

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.
1) 2) 3) 4) 5) 6)

Department Chair: [Signature]

Discipline Specific Curricula Committee: [Signature]

Curricula Committee: [Signature]

Date: 9/26/12

(Revised 10/12/2010)
Experimental Course Form (EC)

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

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

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

Department: Geological Sci. & Eng.

Discipline and Course Number: Pet Eng 401

Course Title: Advanced Mechanical Earth Modeling

Abbreviated Title (24 spaces or less): AdMEn

Instructor(s): Dr. Andreas Eckert

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

Prerequisites: Pet Eng 366 with grade C or better

Pet Eng 338 with grade C or better

Semester(s) previously taught:

Brief Course Description: (40 words or less)
This course focuses on the work processes necessary to simulate realistic in-situ stresses for subsurface engineering applications using advanced Finite Element modeling techniques. Concepts such as stress initialization, spherical model geometry and coupled geomechanical-fluid flow simulations are discussed and examulatory models studied.

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.
1) 2) 3)
4) 5) 6)

Department Chair: [Signature] Date: 10-2-12

Discipline Specific Curricula Committee: [Signature] Date: 10-25-12

Curricula Committee: [Signature] Date: 12/7/2012

(Revised 10/12/2010)
Experimental Course Form (EC)

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

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

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

Department: Electrical and Computer Eng.

Discipline and Course Number: EE 401

Course Title: Power Transmission and Distribution

Abbreviated Title (24 spaces or less): Power T&D

Instructor(s): Mehdi Ferdowsi

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

Prerequisites: EE 207

Semester(s) previously taught: none

Brief Course Description: (40 words or less) Topics include:
High voltage transmission line electric design, conductors, corona, R1 and TV noise, insulators, clearances, DC characteristics, feeders voltage drop, capacitors.

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

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

Department Chair:  (Chair Signature) Date: 10/15/12

Discipline Specific Curricula Committee:  (Chair signature) Date: 10-25-12

Curricula Committee:  (Chair Signature) Date: 12/7/2012

10/12/12 (Revised 10/12/2010)
Experimental Course Form (EC)

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

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

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

Department: Mining and Nuclear Engineering
Discipline and Course Number: MIN 301
Course Title: Mining Industry Economics II
Abbreviated Title (24 spaces or less): Mining Industry Econ II
Instructor(s): Stewart Gillies
Credit Hours: Lecture: 3 Lab: 0 Total: 3
Prerequisites: Econ 121 Microeconomics (3 credits) OR Econ 122 Macroeconomics (3 credits), plus the course MIN 270 Mining Industry Economics (3 credits)

Semester(s) previously taught:

Brief Course Description: (40 words or less)

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.
1) Econ 301 2) 3) 4) 5) 6)

Department Chair: [Signature] Date: 10/23/12
Discipline Specific Curricula Committee: [Signature] Date: 10/25/12
Curricula Committee: [Signature] Date: 10/27/2012

(Revised 10/12/2010)