

**Agenda**

**Campus Curricula Committee Meeting**

**December 5, 2012**

**12 pm, Room 117 Fulton Hall**

**Review of submitted DC forms:**

DC #0432, Business and Information Technology, Minor in Sustainable Business, effective Fall 2013.

DC #0433, Electrical and Computer Engineering, Minor in Computer Engineering, effective Fall 2013.

**Review of submitted CC forms:**

CC #8305, Petroleum Engineering 366, Mechanical Earth Modeling, effective Fall 2013.

CC #8306, Petroleum Engineering 232, Well Logging, effective Spring 2013.

CC #8307, Explosives Engineering 411, Research Methods, effective Fall 2013.

CC #8308, Technical Communication 325, Help Authoring, effective Fall 2013.

CC #8309, Chemical Engineering 433, Advanced Transport Phenomena, effective Spring 2013.

**Review of submitted EC forms:**

EC #2438, Geological Engineering 301, Hydrologic Flow Reaction and Transport Modeling, effective Spring 2013.

EC #2440, Petroleum Engineering 401, Advanced Mechanical Earth Modeling, effective Spring 2013.

EC #2442, Electrical Engineering 401, Power Transmission and Distribution, effective Spring 2013.

EC #2444, Mining Engineering 301, Mining Industry Economics II, effective Spring 2013.

**Tabled Items:**

DC #0417, Engineering Management, Bachelor of Science, effective Fall 2013.



DC #0419, Engineering Management, Bachelor of Science, Industrial Engineering Emphasis, effective Fall 2013.

DC #0420, Engineering Management, Bachelor of Science, General Engineering Emphasis, effective Fall 2013.

DC #0429, Engineering Management, Bachelor of Science, effective Fall 2013.

DC #0430, History, Bachelor of Arts/History Teacher Education Program, effective Fall 2013.

CC #8280, Computer Engineering 416, Advanced Computer Architecture II, effective Spring 2013.

CC #8281, History 396, History Research Seminar, effective Fall 2013.

CC #8282, Engineering Management 482, Financial Engineering II, effective Spring 2013.

CC #8284, Systems Engineering 378, Introduction to Neural Networks & Applications, effective Fall 2013.

CC #8285, Engineering Management 481, Financial Engineering, effective Spring 2013.

Effective Year: 2013

DC # 0432-2012-BIT-000-00

Effective Term: Summer  Fall  Spring

(Creating or modifying a degree program must be effective for a Fall term)

# Degree Change Form (DC)

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

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

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:   
(Chair signature)

Date: 10/24/12

Recommended by:   
Discipline Specific Curricula Committee (Chair signature)

Date: 10/25/2012

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

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

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

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

Effective Year: FS2013

DC #0433-2012-CpE-00000

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

## Degree Change Form (DC)

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

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

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: Kevin Emler  
(Chair signature)

Date: 29 Oct 2012

Recommended by Discipline Specific Curricula Committee: Alpho Raga  
(Chair signature)

Date: 31 Oct 12

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

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

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

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

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.

Effective Year: 2013

Term: Summer  Fall  Spring

CC File # 8305-2012-Pet Eng-366-32

# Course Change Form (CC)

This form is for creating or modifying permanent courses.

## Course Changes (Check all changes.)

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

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

1. Department: 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 Olaf A. [Signature]  
(Chair signature)

Date: 10-2-12

Recommended by Discipline Specific Curricula Committee [Signature]  
(Chair signature)

Date: 10-25-12

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

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

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

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

Effective Year: 2013

Term: Summer  Fall  Spring

CC File # 8306-2012-Pet Eng-232-32

# Course Change Form (CC)

This form is for creating or modifying permanent courses.

## Course Changes (Check all changes.)

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

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

1. Department: 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  
and 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 Ralph Hor  
(Chair signature)

Date: 10-2-12

Recommended by Discipline Specific Curricula Committee Shirley Raper  
(Chair signature)

Date: 10-25-12

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

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

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

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

CC File # 8307-2012-ExpEng-411-10

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: Mining and Nuclear Engineering
- 2. Discipline and Course Number: Present : Proposed: Exp Eng 411
- 3. Course Title: Present: Proposed: Research Methods

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

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

Present: Mining 411

Proposed: Foundations, dimensions, and methods for designing and investigating research problems. Focus on fundamentals and applied research, research methods, literature review, experimental design and experimentation, disertations composition, concepts of originality and interlectual property

### 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: Graduate Standing

### 8. Required for Majors: Elective for Majors:

9. Justification: We would like to co-list with Mining 411 research methods. It has become apparent that the masters of explosives engineering by research students need to take the class and we will be also including this for our PhD in explosives engineering in application as a required class. Dr. Baird (mining and explosives) has currently reworked min 411 and will teach onsite and distance.

### 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) Mining 411 *SF* 2)
- 3)
- 4)
- 5)

Recommended by Department

*[Handwritten Signature]*  
(Chair signature)

Date: 10/22/12

Recommended by Discipline Specific Curricula Committee

*[Handwritten Signature]*  
(Chair signature)

Date: 10/29/12

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

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

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

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



Effective Year: 2013  
Term: Summer  Fall  Spring

CC File # 8308-2012 - TCom - 325-10

# Course Change Form (CC)

This form is for creating or modifying permanent courses.

## Course Changes (Check all changes.)

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

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

1. Department: English and Tech Com  
2. Discipline and Course Number: Present: 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, SP11<sup>10</sup>, SP12<sup>20</sup>

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 [Signature] Date: 10/23/12  
(Chair signature)  
Recommended by Discipline Specific Curricula Committee [Signature] Date: 10/24/12  
(Chair signature)  
Approved by Curricula Committee: \_\_\_\_\_ Date: \_\_\_\_\_  
(Chair signature)  
Approved by Faculty Senate: \_\_\_\_\_ Date: \_\_\_\_\_  
(Chair signature)

(Revised 1/29/09)

Effective Year: ~~2012~~ 13  
Term: Summer  Fall  Spring

CC File # 8309-2012-ChemE-  
433-32

# Course Change Form (CC)

This form is for creating or modifying permanent courses.

## Course Changes (Check all changes.)

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

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

1. Department: *Chemical and Biochemical Eng*  
2. Discipline and Course Number: Present: *ChE 433* Proposed: ~~*ChE 433*~~ *433-100*  
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.) *unchanged*  
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 *Mutham M. Datta*  
(Chair signature)

Date: *10/17/12*

Recommended by Discipline Specific Curricula Committee *John Rife*  
(Chair signature)

Date: *10/29/12*

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

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

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

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

Effective Year: 2013  
Effective Term: Summer  Fall  Spring

EC File # 2438-SP2013-  
GeoE-301

## Experimental Course Form (EC)

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

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

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

Department: Geological Sciences and Eng

Discipline and Course Number: <sup>Geo Eng</sup> GE301

Course Title: Hydrologic <sup>F R</sup> flow <sup>T</sup> reaction and <sup>m</sup> 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: Shadab Anwar  
(Chair Signature)

Date: Sept 26/12

Discipline Specific Curricula Committee: Shadab Anwar  
(Chair signature)

Date: 10-23-12

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

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

Effective Year: 2013  
Effective Term: Summer  Fall  Spring

EC File # 2440-Sp 2013 - Pet Eng 401

## Experimental Course Form (EC)

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

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

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

Department: Geological Sci. & Eng.

Discipline and Course Number: Pet Eng 401

Course Title: Advanced Mechanical Earth Modeling

Abbreviated Title (24 spaces or less): Adv MEM

Instructor(s): Dr. Andreas Eckert

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

Prerequisites: Pet Eng 366 and  
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 sub-surface engineering applications using advanced Finite Element modeling techniques. Concepts such as stress initialization, spherical model geometry and coupled geomechanical-fluid flow simulatoins are discussed and examplatory 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:                     *Olaf Jor*                      
(Chair Signature)

Date: 10-2-12

Discipline Specific Curricula Committee:                     *Stephan Pape*                      
(Chair signature)

Date: 10-25-12

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

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

EC File # 2442-SP2013-EE-401

Effective Year: 2013  
Effective Term: Summer  Fall  Spring

## Experimental Course Form (EC)

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

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

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

Department: 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)

High voltage transmission line electric design, conductors, corona, R1 and TV noise, insulators, clearances, DC characteristic, 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: Kelci Eucken  
(Chair Signature)

Date: 10/15/12

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

Date: 10-25-10

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

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



**Russell, Judy**

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**From:** Gillies, Stewart  
**Sent:** Thursday, October 18, 2012 3:38 PM  
**To:** Russell, Judy  
**Cc:** Robertson, Barbara A.  
**Subject:** FW: New course in Mining Economics

Judy,

As discussed this morning (and as discussed by Mining Faculty at our Spring Semester 2012 Retreat at Viburnum) it would be appreciated if you would smooth the birth of this new course to allow the university system to work.

The new Mining course MinE 301 (Provisional, to become MinE 320 Mining Industry Economics II), 3 credits, offered by the Mining Department will be available in Spring semester 2013.

Proposed Course Syllabus.

MinE 320 Mining Economics (3 credits, Lec 3) Spring semester; The mining industry and national economies. Social and economic significance of mined commodities. Marketing of mined commodities. Cartels and other hindrances to free trade. Mine financing, project loans, leasing and innovative approaches to mine financing. Mining feasibility studies, government influence and policy, mining industry foreign investment, investment strategies, mining taxation and cost prediction. Case studies.

Textbook

Runge, I.C., 1998. "Mining Economics and Strategy", Society for Mining, Metallurgy and Exploration, Inc., Colorado.

Related Information

Mining Engineering now requires students to undertake EITHER Econ 121 Micro Economics (3 credits) OR Econ 122 Macro Economics (3 credits) plus the course MinE 270 Mining Industry Economics (3 credits) as minimum Mining Economics instruction to the BS degree.

In recent years a significant number of Mining students have shown an interest in undertaking more credits of Mining Economics instruction This may allow some to complete a Minor in Mining Economics from courses available between the Mining and Economics Departments. Dr Gelles, Chairman of Economics, supports both Departments working together in expanding offerings which provide a balance between Economics and Mining. The provision of the new course Mining Industry Economics II will make it easier for a student to achieve a Mining Economics Minor while undertaking a Mining Engineering BS degree. A Mining Economics Minor could be achieved by a student completing the following courses or possibly some other related courses.

- Econ 121 Micro Economics Econ 121 (basic 3 credits course offered by Economics Department),
- Econ 122 Macro Economics (basic 3 credits course offered by Economics Department),
- MinE 270 Mining Industry Economics (Mining Industry Economics, 3 credits course offered by Mining Department and fulfills an ABET requirement),
- MinE 301 (Provisional to become MinE 320 Mining Industry Economics II (3 credits offered by Mining Department) – A NEW COURSE
- Intermediate Micro Economics, Econ 221 (3 credits offered by Economics Department) OR
- Econ 340 Natural Resource Economics (3 credits offered by Economics Department)

Thanks for your assistance. Is there anything else that needs to be done?  
Class meeting time would be preferred on Tuesday/Thursday.

Dr Stewart Gillies

Effective Year: 2013  
Effective Term: Summer  Fall  Spring

EC File # 2444-Sp 2013-  
MIN 301

### Experimental Course Form (EC)

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

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

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

Department: Mining and Nuclear Engineering

Discipline and Course Number: <sup>ENG</sup> MIN 301

Course Title: Mining Industry Economics II

Abbreviated Title (24 spaces or less): Min Ind Economics II

Instructor(s): Stewart Gillies

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

Prerequisites: Econ 121 Micro Economics (3 credits) OR Econ 122 Macro Economics (3 credits) plus the course Mine-270 Mining Industry Economics (3 credits) ~~Stewart~~

Semester(s) previously taught:

Brief Course Description: (40 words or less)

Mining industry and national economies. Social and economic significance of mined commodities. Marketing of mined commodities. Mine financing, project loans, leasing and innovative approaches to mine financing. Mining feasibility studies, government influence and policy, mining industry foreign investment, investment strategies, mining taxation and cost prediction. Case studies.

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]  
(Chair Signature)

Date: 10/20/12

Discipline Specific Curricula Committee: \_\_\_\_\_  
(Chair signature)

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

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

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



DC # 0417-2012 - Emgt - 000-00

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):

Emgt ← 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: David Ende  
(Chair signature)

Date: 2/27/12

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

Date: 8/26/12

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

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

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

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

## Bachelor of Science Engineering Management

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

Freshman Year					
First Semester			Second Semester		
FE 10 Study and Careers in Engineering	1	<input type="radio"/>	IDE 20 Engineering Design with Computer Appli	3	<input type="radio"/>
Chem 1 General Chemistry	4	<input type="radio"/>	Math 15 Calculus II for Engineers	4	<input type="radio"/>
Chem 2 General Chemistry Lab	1	<input type="radio"/>	Phys 23 Engineering Physics I	4	<input type="radio"/>
Chem 4 Intro to Lab Safety	1	<input type="radio"/>	Econ 121/122 - Micro or Macro Economics	3	<input type="radio"/>
Math 14 Calculus I for Engineers	4	<input type="radio"/>	Humanities Elective	3	<input type="radio"/>
Engl 20 Exposition and Argumentation	3	<input type="radio"/>			
Hist 112, 175, 176 or Pol Sci 90	3	<input type="radio"/>			
	17			17	
Sophomore Year					
First Semester			Second Semester		
Math 22 - Calculus w/Analytic Geometry III	4	<input type="radio"/>	Math 204 - Differential Equations	3	<input type="radio"/>
Physics 24 - Engineering Physics II	4	<input type="radio"/>	Stat 215/217 - Eng Statistics	3	<input type="radio"/>
IDE 50 - Engineering Mechanics - Statics	3	<input type="radio"/>	IDE 150 - Engineering Mechanics - Dynamics	2	<input type="radio"/>
Eng Mg 213 Complex System Mgt	3	<input type="radio"/>	Eng Mg 147 - Eng Mgt Acct&Fin	3	<input type="radio"/>
Eng Mg 137 - Eng Economics	2	<input type="radio"/>	Eng Mg 134 - Management Eng & Technology	3	<input type="radio"/>
			Psych 50 - General Psychology	3	<input type="radio"/>
	16			17	
Junior Year					
First Semester			Second Semester		
Eng Mg 253 - Operations & Prod Mngt	3	<input type="radio"/>	Eng Mg 266 - Quality Philosophies & Methods	3	<input type="radio"/>
Eng Mg 251 - Marketing Management	3	<input type="radio"/>	Eng Mg 254 - Project Management	3	<input type="radio"/>
IDE 110 - Mechanics of Materials	3	<input type="radio"/>	EI Eng 281 - Electrical Circuits	3	<input type="radio"/>
IDE 120 - Mechanics of Materials Lab	1	<input type="radio"/>	English 160 - Technical Writing	3	<input type="radio"/>
Comp Sci 74 - C++ Programming	2	<input type="radio"/>	ME 227 - Thermal Analysis	3	<input type="radio"/>
Com Sci 78 - C++ Lab	1	<input type="radio"/>			
Sp&Med 085 or 181	3	<input type="radio"/>			
	16			15	
Senior Year					
First Semester			Second Semester		
Eng Mg Emphasis Requirement	3	<input type="radio"/>	Eng Mg 299 - Senior Design	3	<input type="radio"/>
Eng Mg Emphasis Requirement	3	<input type="radio"/>	Eng Mg Technical Elective	3	<input type="radio"/>
Eng Mg 260 - Gen Mgt - Design & Integration	3	<input type="radio"/>	Eng Mg Technical Elective	3	<input type="radio"/>
Eng Mg Emphasis Requirement	3	<input type="radio"/>	Upper Level H/SS	3	<input type="radio"/>
Eng Mg Emphasis Requirement	3	<input type="radio"/>	Free Elective	3	<input type="radio"/>
	15			15	

**Comments:**

Effective Year: 2013  
Effective Term: Summer  Fall xx  Spring   
(Creating or modifying a degree program must be effective for a Fall term)

DC # 0419-2012-Emgt-000-00

## Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:  
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 382) 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.

Emgt  
Emgt

Recommended by Department: David Ende  
(Chair signature)

Date: 2/27/12

Recommended by: Joseph R. Raper  
Discipline Specific Curricula Committee (Chair signature)

Date: 8/26/12

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

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

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

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

**Bachelor of Science Engineering Management**  
**Student Checklist - FS 2013 - Catalog 128 Hours**

**Industrial Engineering Emphasis**

Freshman Year			
First Semester		Second Semester	
FE 10 Study and Careers in Engineering	1	<input type="radio"/> IDE 20 Engineering Design with Computer Appli	3
Chem 1 General Chemistry	4	<input type="radio"/> Math 15 Calculus II for Engineers	4
Chem 2 General Chemistry Lab	1	<input type="radio"/> Phys 23 Engineering Physics I	4
Chem 4 Intro to Lab Safety	1	<input type="radio"/> Econ 121/122 - Micro or Macro Economics	3
Math 14 Calculus I for Engineers	4	<input type="radio"/> Humanities Elective	3
Engl 20 Exposition and Argumentation	3		
Hist 112, 175, 176 or Pol Sci 90	3		
	17		17
Sophomore Year			
First Semester		Second Semester	
Math 22 - Calculus w/Analytic Geometry III	4	<input type="radio"/> Math 204 - Differential Equations	3
Physics 24 - Engineering Physics II	4	<input type="radio"/> Stat 215/217 - Eng Statistics	3
IDE 50 - Engineering Mechanics - Statics	3	<input type="radio"/> IDE 150 - Engineering Mechanics - Dynamics	2
Eng Mg 213 Complex System Mgt	3	<input type="radio"/> Eng Mg 147 - Eng Mgt Acct&Fin	3
Eng Mg 137 - Eng Economics	2	<input type="radio"/> Psych 50 - General Psychology	3
		<input type="radio"/> Eng Mg 134 - Management Eng & Technology	3
	16		17
Junior Year			
First Semester		Second Semester	
Eng Mg 253 - Operations & Prod Mngt	3	<input type="radio"/> Eng Mg 266 - Quality Philosophies & Methods	3
Eng Mg 251 - Marketing Management	3	<input type="radio"/> Eng Mg 254 - Project Management	3
IDE 110 - Mechanics of Materials	3	<input type="radio"/> EI Eng 281 - Electrical Circuits	3
IDE 120 - Mechanics of Materials Lab	1	<input type="radio"/> English 160 - Technical Writing	3
Comp Sci 74 - C++ Programming	2	<input type="radio"/> ME 227 - Thermal Analysis	3
Com Sci 78 - C++ Lab	1		
Sp&Med 085 or 181	3		
	16		15
Senior Year			
First Semester		Second Semester	
Eng Mg 356 - Ind Sys Simulation	3	<input type="radio"/> Eng Mg 299 - Senior Design	3
Eng Mg 382 Intro to Ops Research	3	<input type="radio"/> Eng Mg 257 - Mat Hndl & Plant Layout	3
Eng Mg 311 - Human Factors	3	<input type="radio"/> Eng Mg Technical Elective	3
Eng Mg 260 - Gen Mgt - Design & Integration	3	<input type="radio"/> Upper Level H/SS	3
Eng Mg Technical Elective	3	<input type="radio"/> Free Elective	3
	15		15

**Comments:**

Effective Year: 2013

Effective Term: Summer  Fall xx Spring

(Creating or modifying a degree program must be effective for a Fall term)

DC #0420-2012-Emgt-000-00

## Degree Change Form (DC)

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

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

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 Emgt 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: Dud Ende  
(Chair signature)

Date: 2/27/12

Recommended by: Stephan Paper  
Discipline Specific Curricula Committee (Chair signature)

Date: 8/26/12

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

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

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

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

**Bachelor of Science Engineering Management**  
**Student Checklist - FS 2013 - Catalog 128 Hours**

**General Engineering Emphasis**

<b>Freshman Year</b>			
<b>First Semester</b>		<b>Second Semester</b>	
FE 10 Study and Careers in Engineering	1 <input type="radio"/>	IDE 20 Engineering Design with Computer Appli	3 <input type="radio"/>
Chem 1 General Chemistry	4 <input type="radio"/>	Math 15 Calculus II for Engineers	4 <input type="radio"/>
Chem 2 General Chemistry Lab	1 <input type="radio"/>	Phys 23 Engineering Physics 1	4 <input type="radio"/>
Chem 4 Intro to Lab Safety	1 <input type="radio"/>	Econ 121/122 - Micro or Macro Economics	3 <input type="radio"/>
Math 14 Calculus I for Engineers	4 <input type="radio"/>	Humanities Elective	3 <input type="radio"/>
Engl 20 Exposition and Argumentation	3 <input type="radio"/>		
Hist 112, 175, 176 or Pol Sci 90	3 <input type="radio"/>		
	17		17
<b>Sophomore Year</b>			
<b>First Semester</b>		<b>Second Semester</b>	
Math 22 - Calculus w/Analytic Geometry III	4 <input type="radio"/>	Math 204 - Differential Equations	3 <input type="radio"/>
Physics 24 - Engineering Physics II	4 <input type="radio"/>	Stat 215/217 - Eng Statistics	3 <input type="radio"/>
IDE 50 - Engineering Mechanics - Statics	3 <input type="radio"/>	IDE 150 - Engineering Mechanics - Dynamics	2 <input type="radio"/>
Eng Mg 213 Complex System Mgt	3 <input type="radio"/>	Eng Mg 147 - Eng Mgr Acct&Fin	3 <input type="radio"/>
Eng Mg 137 - Eng Economics	2 <input type="radio"/>	Eng Mg 134 - Management Eng & Technology	3 <input type="radio"/>
		Psych 50 - General Psychology	3 <input type="radio"/>
	16		17
<b>Junior Year</b>			
<b>First Semester</b>		<b>Second Semester</b>	
Eng Mg 253 - Operations & Prod Mngt	3 <input type="radio"/>	Eng Mg 266 - Quality Philosophies & Methods	3 <input type="radio"/>
Eng Mg 251 - Marketing Management	3 <input type="radio"/>	Eng Mg 254 - Project Management	3 <input type="radio"/>
IDE 110 - Mechanics of Materials	3 <input type="radio"/>	EI Eng 281 - Electrical Circuits	3 <input type="radio"/>
IDE 120 - Mechanics of Materials Lab	1 <input type="radio"/>	English 160 - Technical Writing	3 <input type="radio"/>
Comp Sci 74 - C++ Programming	2 <input type="radio"/>	ME 227 - Thermal Analysis	3 <input type="radio"/>
Com Sci 78 - C++ Lab	1 <input type="radio"/>		
Sp&Med 085 or 181	3 <input type="radio"/>		
	16		15
<b>Senior Year</b>			
<b>First Semester</b>		<b>Second Semester</b>	
Eng Mg Emphasis Requirement	3 <input type="radio"/>	Eng Mg 299 - Senior Design	3 <input type="radio"/>
Eng Mg Emphasis Requirement	3 <input type="radio"/>	Eng Mg Emphasis Requirement	3 <input type="radio"/>
Eng Mg 260 - Gen Mgt - Design & Integration	3 <input type="radio"/>	Eng Mg Technical Elective	3 <input type="radio"/>
Eng Mg Emphasis Requirement	3 <input type="radio"/>	Upper Level H/SS	3 <input type="radio"/>
Eng Mg Emphasis Requirement	3 <input type="radio"/>	Free Elective	3 <input type="radio"/>
	15		15

**Comments:**

2013

Effective Year: 2012

Effective Term: Summer  Fall  Spring

(Creating or modifying a degree program must be effective for a Fall term)

DC # 0429-2012-Emgt-000-00

### Degree Change Form (DC)

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

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

Change of "Free Elective Footnote" paragraph, page 139 of current catalog

Change of Footnote 3 in current catalog - Free Electives

**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."

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

Recommended by Department: David E. [Signature]  
(Chair signature)

Date: 3/28/12

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

Date: 8/26/12

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

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

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

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

## Bachelor of Science Engineering Management

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

Freshman Year			
First Semester		Second Semester	
FE 10 Study and Careers in Engineering	1	IDE 20 Engineering Design with Computer Appli	3
Chem 1 General Chemistry	4	Math 15 Calculus II for Engineers	4
Chem 2 General Chemistry Lab	1	Phys 23 Engineering Physics I	4
Chem 4 Intro to Lab Safety	1	Econ 121/122 - Micro or Macro Economics	3
Math 14 Calculus I for Engineers	4	Humanities Elective	3
Engl 20 Exposition and Argumentation	3		
Hist 112, 175, 176 or Pol Sci 90	3		
	17		17
Sophomore Year			
First Semester		Second Semester	
Math 22 - Calculus w/Analytic Geometry III	4	Math 204 - Differential Equations	3
Physics 24 - Engineering Physics II	4	Stat 215/217 - Eng Statistics	3
IDE 50 - Engineering Mechanics - Statics	3	IDE 150 - Engineering Mechanics - Dynamics	2
Eng Mg 213 Complex System Mgt	3	Eng Mg 147 - Eng Mgt Acct&Fin	3
Eng Mg 137 - Eng Economics	2	Eng Mg 134 - Management Eng & Technology	3
		Psych 50 - General Psychology	3
	16		17
Junior Year			
First Semester		Second Semester	
Eng Mg 253 - Operations & Prod Mngt	3	Eng Mg 266 - Quality Philosophies & Methods	3
Eng Mg 251 - Marketing Management	3	Eng Mg 254 - Project Management	3
IDE 110 - Mechanics of Materials	3	EI Eng 281 - Electrical Circuits	3
IDE 120 - Mechanics of Materials Lab	1	English 160 - Technical Writing	3
Comp Sci 74 - C++ Programming	2	ME 227 - Thermal Analysis	3
Com Sci 78 - C++ Lab	1		
Sp&Med 085 or 181	3		
	16		15
Senior Year			
First Semester		Second Semester	
Eng Mg Emphasis Requirement	3	Eng Mg 299 - Senior Design	3
Eng Mg Emphasis Requirement	3	Eng Mg Technical Elective	3
Eng Mg 260 - Gen Mgt - Design & Integration	3	Eng Mg Technical Elective	3
Eng Mg Emphasis Requirement	3	Upper Level H/SS	3
Eng Mg Emphasis Requirement	3	Free Elective	3
	15		15

Comments:



Effective Year: 2013  
Effective Term: Summer  Fall  Spring   
(Creating or modifying a degree program must be effective for a Fall term)

DC # 0430-2012 - Hist -  
000-00


## Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:  
History major; History Teacher Education Program

Department: History & Political Science

Briefly describe action requested (Attach documentation as appropriate):  
We are adding a new course (tentatively Hist 396, Research Seminar in History, see accompanying ccform), that history majors would be able to take in place of the Hist 397 Senior Thesis requirement, or as an upper-division history elective in preparation for the senior thesis. Students in the research seminar will be required to produce a research paper the same length and quality as that currently required by the senior thesis, but the research seminar would offer a more structured, classroom environment (as opposed to the independent study format of Hist 397) that we believe would be beneficial to many history majors.

Recommended by Department:   
(Chair signature)

Date: 9-10-12

Recommended by:   
Discipline Specific Curricula Committee (Chair signature)

Date: 9-17-12

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

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

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

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

## Current History Major:

Hist 10	Intro to Hist.	1 credit hours
Hist 175, 176	American History surveys	6
Hist 299	Historiography	3
	American History electives	6
	European History electives	6
	Open History electives	6
Hist 397	Senior Thesis	3
Total		31 credit hours <sup>1</sup>

## Proposed History Major:

Hist 10	Intro to Hist.	1 credit hours
Hist 175, 176	American History surveys	6
Hist 299	Historiography	3
	American History electives	6
	European History electives	6
	Open History electives	6
Hist 396 or 397	<b>Hist. Research Sem. or Senior Thesis</b>	3
Total		31 credit hours <sup>1</sup>

<sup>1</sup> History majors and those in the History Teacher Education Program are also required to complete Hist 111 and 112 (the Western Civilization sequence) as part of the general education requirements for the B.A. In addition, 9 hours of the 31 major hours must be taken at the 300 level (no change in requirements with this).

CC File # 8280-2012-CpE-416-20

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: Electrical and Computer Eng
- 2. Discipline and Course Number: Present: *Cp Eng 416* Proposed:
- 3. Course Title: Present: ~~Cp Eng 416~~ *advanced computer architecture II*  
Proposed:

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

- 4. Catalog Description (300 Character Spaces or Less.)  
Present: (LEC 3.0) Continuation of Computer Engineering 415. ~~Prerequisite: Cp Eng 415.~~

Proposed:

- 5. If course requires field trip check box:

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

- 7. Prerequisites:  
Present: *Cp Eng 415*

Proposed:

- 8. Required for Majors:  Elective for Majors:

- 9. Justification: Course has not been taught since spring 2008. The instructor who normally taught this course has retired. The course is not expected to be offered in the future.

- 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	<u><i>Kelu Eula</i></u> (Chair signature)	Date: <u>9/5/12</u>
Recommended by Discipline Specific Curricula Committee	<u><i>R. J. ...</i></u> (Chair signature)	Date: <u>8/31/12/9/2/12</u>
Approved by Curricula Committee:	_____ (Chair signature)	Date: _____
Approved by Faculty Senate:	_____ (Chair signature)	Date: _____

Effective Year: 2013  
Term: Summer  Fall  Spring

CC File # 8281-2012-HIST-396-10

### Course Change Form (CC)

This form is for creating or modifying permanent courses.

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

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

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

1. Department: History and Political Science  
2. Discipline and Course Number: Present: Proposed: History 396  
3. Course Title: Present: Proposed: History Research Seminar

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

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

Proposed: The course focuses on advanced research methods, and each student will produce a substantial research paper in preparation for or to replace the senior thesis. The historical topic of the seminar for each semester will be chosen by the faculty member responsible for teaching it.

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: Hist 299; junior or senior status

8. Required for Majors:  Elective for Majors:

9. Justification: The initial experiences with the Hist 397 senior thesis were not entirely satisfactory. Many history majors need a more structured, classroom environment to produce the requisite level of historical scholarship our department deems necessary for our majors. The seminar will be an alternative to Hist 397, or students may take both.

10. Semesters previously offered as an experimental course (101, 201, 301, 401): new w/ major change

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: [Signature]  
(Chair signature)  
Recommended by Discipline Specific Curricula Committee: [Signature]  
(Chair signature)  
Approved by Curricula Committee: \_\_\_\_\_  
(Chair signature)  
Approved by Faculty Senate: \_\_\_\_\_  
(Chair signature)

Date: 9-10-12  
Date: 9-17-12  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_

(Revised 1/28/09)



Effective Year: 2013  
Term: Summer  Fall  Spring

CC File # 8284-2012-Sys E-

# Course Change Form (CC)

378-32

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: 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.)

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: Lecture: 3 Lab: 0 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, initialed by Dept. Chair, if signature does not appear below.

- 1) ECE368                      2)                      3)
- 4)                      5)                      6)

Recommended by Department                     *D. Ende*                      
(Chair signature)

Date: 9/13/12

Recommended by Discipline Specific Curricula Committee                     *[Signature]*                      
(Chair signature)

Date: 9/26/12

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

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

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

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

(Revised 1/29/09)

