



**Campus Curricula Committee Meeting Agenda**

**May 21, 2013**

**9:00 am**

**Room 106B Parker Hall**

**Review of submitted DC forms:**

DC #0476, Geological Science and Engineering, Bachelor of Science in Geological Engineering, effective Fall 2013.

**Review of submitted CC forms:**

CC #8468, Aerospace Engineering 161, Aerospace Vehicle Performance, effective Fall 2013.

CC #8469, Systems Engineering 435, Model Based Systems Engineering, effective Fall 2013.

CC #8470, Computer Science 405, Model Based Systems Engineering, effective Fall 2013.

CC #8471, Computer Science 346, Introduction to Computational Perception and Cognition, effective Spring 2014.

CC #8472, Geological Engineering, Inca Civilization Geotechnical Engineering Practices, effective Spring 2014.

CC #8473, Geological Engineering 320, Hydrologic Flow and Transport Modeling, effective Spring 2014.

**Review of submitted EC forms:**

EC #2467, Aerospace Engineering 201, Senior Assessment, effective Fall 2013.

EC #2468, Petroleum Engineering 301, Oil Field Safety and Engineering, effective Spring 2014.

EC #2469, Geological Engineering 401, Renewable Energy Systems Modeling, effective Spring 2014.

**Tabled Items:**

DC #0466, Materials Science and Engineering, Minor in Materials Science and Engineering.



## MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

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*Formerly University of Missouri-Rolla*

CC #8385, Ceramic Engineering 261, Materials Senior Design I.

CC #8386, Ceramic Engineering 262, Materials Senior Design II.

CC #8406, Metallurgical Engineering 216, Mechanical Testing of Materials.

CC #8407, Metallurgical Engineering 218, Microstructural Development Laboratory.

CC #8445, Metallurgical Engineering 261, Materials Senior Design I.

CC #8446, Metallurgical Engineering 262, Materials Senior Design II.

### **Course Renumbering Initiative**

### **Associating Minors with DSCCs**

### **Online Curricula Workflow Demo**

*Page 2*

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*An equal opportunity institution*

Effective Year: 2013

Effective Term: Summer ☐ Fall ☒ Spring ☐

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

DC # 0476-2013-GeoEng-00000

## 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:**

Bachelor of Science in Geological Engineering

**Department:** Geological Sciences and Engineering

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

The course list for the Engineering Econ Elective in the catalog (Item f) should be amended as follows (see attachments):

Add: Min <sup>Eng</sup> E 270.

Old:

To be selected from Eng Mgt 308 or PE 357 or both Eng Mgt 124 and Eng Mgt 137.

New:

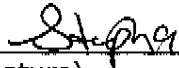
To be selected from Eng Mgt 308, Min <sup>Eng</sup> E 270, or <sup>PE + Eng</sup> PE 357 or both Eng Mgt 124 and Eng Mgt 137.

Recommended by Department:

  
(Chair signature)

Date: April 19/13

Recommended by Discipline Specific Curricula Committee:

  
(Chair signature)

Date: 4/30/13

Approved by Curricula Committee:

\_\_\_\_\_  
(Chair signature)

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

Approved by Faculty Senate:

\_\_\_\_\_  
(Chair signature)

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

CC File # 8468-2013-Aero Eng-161-32

Effective Year: 2013 Effective Term: Summer [ ] Fall [ ] Spring [X]

**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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Mechanical & Aerospace Engineering**2. Discipline and Course Number: Present: **AE 161** <sup>Aero Eng</sup> Proposed:3. Course Title: Present: **Aerospace Vehicle Performance**

Proposed:

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

4. Catalog Description (360 character spaces or less.)

Present: **Nature and theory of lift, drag, performance, and stability and control of aerospace vehicles.**Prerequisite: **Physics 23.**Proposed: **Nature and theory of lift, drag, performance, and stability and control of aerospace vehicles.**Prerequisite: **"C" or better in Math 15 and Physics 23 is required for enrollment.**5. If course requires field trip check box: ☐

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

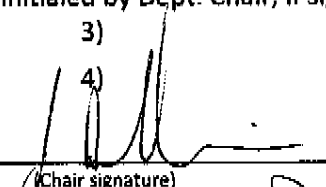

7. Prerequisites:

Present: **Physics 23**Proposed: **"C" or better in Math 15 and Physics 23**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Material covered requires mastery of Physics 23 and Math 15 content**

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) 3) 5)  
2) 4) 6)

Recommended by Department  Date: 4/9/2013  
(Chair signature)Recommended by DSCC  Date: 4/18/13  
(Chair signature)Approved by Curricula Committee: \_\_\_\_\_ Date: \_\_\_\_\_  
(Chair signature)Approved by Faculty Senate: \_\_\_\_\_ Date: \_\_\_\_\_  
(Chair signature)

(Revised December 2012)

Effective Year: 2013

Term: Summer ☐ Fall ☒ Spring ☐

CC File # 8469-2013-Sys Eng - 435-32

## 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: Eng Management and Systems Eng

2. Discipline and Course Number: Present : Sys Eng 435 Proposed:

3. Course Title: Present: Model Based Systems Engineering  
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: This course covers the use of models to represent systems and the underlying system elements, components, etc. Topics also include SysML, executable systems architectures, model repositories, integration of models and information, and use of MBSE in distributed systems.

Proposed: Provides the student with understanding of the use of models to represent systems and validate system architectures. The student will gain proficiency in using a systems modeling language and shifting systems engineering from a document centric to a model centric paradigm.

#### 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: Sys Eng 433

Proposed: Sys Eng 433 or both a "C" or better grade in Comp Sci 206 and instructor approval

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

9. Justification: Co-listing course with Computer Science for the existing graduate certificate "Systems and Software Architecture" and updating course description.

#### 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) ~~Comp Sci~~ 405 XFL 2) 3)  
 Comp Sci  
 4) 5) 6)

Recommended by Department D. W. Engle

(Chair signature)

Date: 4/23/13Recommended by Discipline Specific Curricula Committee J. Raper

(Chair signature)

Date: 4/30/13

Approved by Curricula Committee: \_\_\_\_\_

(Chair signature)

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

Approved by Faculty Senate: \_\_\_\_\_

(Chair signature)

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

(Revised 1/29/09)

Effective Year: 2013

Term: Summer ☐ Fall ☒ Spring ☐

CC File # 8470-2013-Comp Sci-405-10

**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: Computer Science

2. Discipline and Course Number: Present :

Proposed: Comp Sci 405

3. Course Title: Present:

Proposed: Model Based Systems Engineering

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:** Provides the student with understanding of the use of models to represent systems and validate system architectures. The student will gain proficiency in using a systems modeling language and shifting systems engineering from a document centric to a model centric paradigm.

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: Sys Eng 433 or both a "C" or better in Comp Sci 206 and instructor approval

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

9. Justification: Creating co-listing of Sys Eng 435 for the existing graduate certificate "Systems and Software Architecture".

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) SysEng 435 *DE* 2)

3)

4)

5)

6)

Recommended by Department

(Chair signature)

Date:

4/23/13

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Date:

5/8/2013

Approved by Curricula Committee:

(Chair signature)

Date:

Approved by Faculty Senate:

(Chair signature)

Date:

(Revised 1/29/09)

CC File # 8471-2013-Comp Sci-346-10

Effective Year: 2014 Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Computer Science**2. Discipline and Course Number: Present: **Comp Sci 301** Proposed: **Comp Sci 346**3. Course Title: Present: **Introduction to Computational Perception and Cognition**Proposed: **Introduction to Computer Vision**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Intro Computer Vision**

4. Catalog Description (360 character spaces or less.)

Present:

Proposed: **This course introduces foundational theories and analysis methods in computer vision. Topics will include camera model and geometry, description of visual features, shape analysis, stereo reconstruction, motion and video processing, and visual object recognition.**5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture Lab Total

Proposed: Lecture 3 Lab 0 Total 3

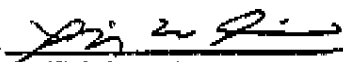

7. Prerequisites:

Present:

Proposed: **A "C" or better grade in both Math 208 and Comp Sci 253**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **Students like this course as the evaluation was 3.9 in Spring 2012. Topics will focus on computer vision.**10. Semesters previously offered as an experimental course (101, 201, 301, 401): <sup>18</sup>SP2012, <sup>13</sup>SP2013

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

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

Recommended by Department  Date: 4/26/13Recommended by DSCC  Date: 5/8/2013

Approved by Curricula Committee: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by Faculty Senate: \_\_\_\_\_ Date: \_\_\_\_\_

(Revised December 2012)

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Effective Year: 2014

Effective Term: Summer ☐ Fall ☐ Spring ☒

CC File # 8472-2013-Geo Eng-407-10

**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: GSE

2. Discipline and Course Number: Present :

Proposed: *Geo Eng* GE 407

3. Course Title: Present:

Proposed: Inca Civilization Geotechnical Engineering Practices

Abbreviated Course Title: Inca Engineering

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

4. Catalog Description (40 Words or Less)

Present:

Proposed: An in-depth study of geotechnical engineering practices in the mountains of Peru, including the Cuzco-Machu Picchu corridor, with emphasis on the inter-relationships between tectonics, geology, geomorphology, climate, hydrology, agriculture, quarrying, construction practices, irrigation, culture and history. A week-long field trip to Peru during Spring Break is

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: *Geo Eng* GE 50 or *Civ Eng* CE 215 or *Geo Eng* GE 371 or equivalent, and graduate standing

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

9. Justification:

10. Semesters previously offered as an experimental course (101, 201, 301, 401): Spring 2010, '11, '12

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

1) CE 407

2)

3)

4)

5)

6)

Recommended by Department

(Chair signature)

Date: *April 29/13*

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Date: *5-6-13*

Approved by Curricula Committee:

(Chair signature)

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

Approved by Faculty Senate:

(Chair signature)

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



CC File # 8Y73-2013-Geo Eng-320-10

Effective Year: 2014 Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Geological Sciences & Engineering**2. Discipline and Course Number: Present: **Geo Eng GE301**Proposed: **Geo Eng GE320**3. Course Title: Present: **Hydrologic Flow and Transport Modeling**Proposed: **Groundwater Modeling**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Groundwater Modeling**

4. Catalog Description (360 character spaces or less.)

Present: **This course is an introduction to advanced modeling techniques for simulating flow and transport 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.**Proposed: **This course is an introduction to advanced modeling techniques for understanding flow and transport 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.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**Proposed: Lecture **3** Lab **0** Total **3**

7. Prerequisites:

Present: **Civ Eng 215 Geo Eng 275, 335**Proposed: **Civ Eng 230 Geo Eng 331**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **Computer modeling has become an essential component of all industries and research organizations.**10. Semesters previously offered as an experimental course (101, 201, 301, 401): **SP2012, SP2013**

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

1)

3)

5)

2)

4)

6)

Recommended by Department

(Chair signature)

Date: **4/30/13**

Recommended by DSCC

(Chair signature)

Date: **5-6-13**

Approved by Curricula Committee:

(Chair signature)

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

Approved by Faculty Senate:

(Chair signature)

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

(Revised December 2012)

EC # *2467-FS2013-Aero Eng-201*Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐

## Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved Spring 2009 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: **Mechanical & Aerospace Engineering**Discipline and Course Number: *Aero Eng*  
**AE 201**Course Title: **Senior Assessment**Abbreviated Title (24 spaces or less): **Senior Assessment**Instructor(s): **K. M. Isaac**Credit Hours: **Lecture 1** **Lab 0** **Total 1***Aero Eng Aero Eng Aero Eng*Prerequisites: **AE 271, AE 261, AE 235, AE 253***Aero Eng*  
Semester(s) previously taught: **0**

Brief Course Description (360 character spaces or less): **This course is an overview of the required aerospace engineering courses that the students took.**

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

1) 3) 5)

2) 4)

Recommended by Department: \_\_\_\_\_

(Chair signature)

Date: 4/11/2013

Recommended by DSCC: \_\_\_\_\_

(Chair signature)

Date: 4/30/13

Approved by Curricula Committee: \_\_\_\_\_

(Chair signature)

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

EC # 2468-Sp 2014-Pet Eng-301

Effective Year: 2014 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 Spring 2009 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: **Geo Sci and Eng**Discipline and Course Number: **Pet Eng 301**Course Title: **Oil Field Safety and Engineering**Abbreviated Title (24 spaces or less): **Oil Field Safety and Eng**Instructor(s): **R. Flori**Credit Hours: Lecture **3** Lab **0** Total **3**Prerequisites: **Pet Eng 313 or 316**Semester(s) previously taught: **n/a**

Brief Course Description (360 character spaces or less): **Introduction to health, safety and environment (HSE) critical issues, management systems, risk and risk assessment with oil field drilling, production and processing applications.**

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

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

Recommended by Department: \_\_\_\_\_

(Chair signature)

Date: 4-30-13

Recommended by DSCC: \_\_\_\_\_

(Chair signature)

Date: 5-6-13

Approved by Curricula Committee: \_\_\_\_\_

(Chair signature)

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

Effective Year: 2014

EC File # 2469-Sp 2014-GEO ENG-401

Effective Term: Summer ☐ Fall ☐ Spring ☒

## Experimental Course Form (EC)

This form must be filed with the Secretary to the Campus Curricula Committee, after the department chair's notation, by the appropriate deadline. Filing deadlines for inclusion in the initial release of the Schedule of Classes are as follows:

Summer and Fall Semester Offerings – January 1  
Spring Semester Offerings – August 1

An EC form must be submitted each semester it is to be offered, not to exceed two offerings. An experimental course that is required should be submitted on a CC form. *Co-listed offerings should be submitted on one form, originating from the primary discipline.*

Department: Geological Sciences and Engineering

Discipline and Course Number: *Geo Eng*  
~~GE~~ 401

Course Title: Renewable Energy Systems Modeling

Abbreviated Title (24 spaces or less): Renewable Energy Model.

Instructor(s): Elmore

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

Prerequisites: ~~GE~~356  
*Geo Eng*

Semester(s) previously taught: 0

Brief Course Description: (40 words or less)

The course will address renewable energy performance prediction models such as Smartz, System Analysis Model (SAM), HOMER and/or others. Photovoltaic, wind, and geothermal systems will be featured with an emphasis on the characterization of the corresponding earth resource.

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: *Robert Murray*  
(Chair Signature)Date: May 1 / 13Discipline Specific Curricula Committee: *Stephen A. Raper*  
(Chair signature)Date: May 6 13Curricula Committee: \_\_\_\_\_  
(Chair Signature)

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

DC # 0466 - 2013 - MS&E - 000-00

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

## Degree Change Form (DC)

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

Title of degree program, emphasis area, or minor:

**B.S. minor in Materials Science & Engineering**

Department: **Materials Science & Engineering**

Briefly describe action requested (attach documentation as appropriate):

**Discontinue offering the Minor in Materials**

In the January 2013 curriculum review meeting by the Materials Science and Engineering Department faculty, it was decided to discontinue offering the Materials Minor (Vote of 15 to discontinue minor, 2 to continue offering the minor and 1 abstaining). The faculty felt that the the current Materials Minor requirements of 15 hours does not provide students with sufficient materials background to be designated a Materials Minor. Most Materials Minors come from the Mechanical Engineering Department where students can take 12 hours as a part of their required ME curriculum (ME153, Met 121 and two ME tech electives: ME 336 and ME 338) allowing students to get a minor in materials with only one more 3 hour course. The faculty found this to be an insufficient materials background to continue providing a minor in materials.

Recommended by Department:

  
(Chair signature)

Date:

2/6/13

Recommended by DSCC:

  
(Chair signature)

Date:

02/19/13

Approved by Curricula Committee:

\_\_\_\_\_  
(Chair signature)

Date:

\_\_\_\_\_

Approved by Faculty Senate:

\_\_\_\_\_  
(Chair signature)

Date:

\_\_\_\_\_

CC File # 8385-2013-CER ENG-261-31

Effective Year: <sup>2014</sup>2013 Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Materials Science & Engineering**2. Discipline and Course Number: Present: **Cer 261<sup>Eng</sup>** Proposed:3. Course Title: Present: **Materials Senior Design I**

Proposed:

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

4. Catalog Description (360 character spaces or less.)

Present: **Students working in groups will be assigned a capstone design project related to a specific materials technology. This course will focus on project plan and all aspects of product and process design. Prerequisite: Senior standing. (Co-listed with Met Eng 261)**

Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 0 Lab 1 Total 1

Proposed: Lecture 0 Lab 3 Total 3

7. Prerequisites:

Present:

Proposed:

8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: *Increased hours needed to expand course content & expectations.*

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) **Met 261**

3)

5)

2) **Eng**

4)

6)

Recommended by Department

(Chair signature)

Date: *2/22/13*

Recommended by DSCC

(Chair signature)

Date: *3-11-13*

Approved by Curricula Committee:

(Chair signature)

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

Approved by Faculty Senate:

(Chair signature)

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

CC File # 8386-2013-CER ENG-262-31

Effective Year: **2013** Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Materials Science & Engineering**2. Discipline and Course Number: Present: **Cer 262** <sup>ENG</sup> Proposed:3. Course Title: Present: **Materials Senior Design II**

Proposed:

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

4. Catalog Description (360 character spaces or less.)

Present: **A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics. Prerequisite: Cer Eng 261 or Met Eng 261. (Co-listed with Met Eng 262)**

Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 0 Lab 2 Total 2

Proposed: Lecture 0 Lab 3 Total 3

7. Prerequisites: **ENG ENG**Present: **Cer 261 or Met 261**Proposed: **Pass prerequisite course with "C" or better in either CER ENG 261 or MET ENG 261**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Encourage student success through a better understanding of core material** ; **increased hours needed, expand course content & expectations.**

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) **Met 262**

3)

5)

2) **ENG**

4)

6)

Recommended by Department

(Chair signature)

Date: **2/24/13**

Recommended by DSCC

(Chair signature)

Date: **3-11-13**

Approved by Curricula Committee:

(Chair signature)

Date:

Approved by Faculty Senate:

(Chair signature)

Date:

CC File # 8406-2013-MET ENG-216-31

Effective Year: **2013** Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Materials Science & Engineering**2. Discipline and Course Number: Present: **Met 216** Proposed:3. Course Title: Present: **Mechanical Testing of Materials**

Proposed:

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

4. Catalog Description (360 character spaces or less.)

Present: **Deformation of materials and mechanical testing of materials; tensile testing, creep; impact testing; fracture mechanics and fatigue. Prerequisites: Met Eng 121, accompanied by Met Eng 215.**Proposed: **Deformation of materials and mechanical testing of materials; tensile testing, creep; impact testing; fracture mechanics and fatigue. Prerequisites: Met Eng 121 with a "C" or better, preceded or accompanied by Met Eng 215.**5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 0 Lab 1 Total 1

Proposed: Lecture 1 Lab 1 Total 2

7. Prerequisites:

Present: **Met 121, and preceded or accompanied by Met 215**Proposed: **Met 121 with "C" or better, and preceded or accompanied by Met 215**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Prerequisite grade "C" - new department standard to improve student success; increased credit hours**10. Semesters previously offered as an experimental course (101, 201, 301, 401): **due to adding lecture section**

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

1)

3)

5)

2)

4)

6)

Recommended by Department

(Chair signature)

Date: **2/22/13**

Recommended by DSCC

(Chair signature)

Date: **3-11-13**

Approved by Curricula Committee:

(Chair signature)

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

Approved by Faculty Senate:

(Chair signature)

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

(Revised December 2012)



CC File # 8407-2013-MET ENG-218-31

Effective Year: **2013** Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Materials Science & Engineering**2. Discipline and Course Number: Present: **Met 218** Proposed:3. Course Title: Present: **Microstructural Development Laboratory**

Proposed:

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

4. Catalog Description (360 character spaces or less.)

Present: **Investigation of the relationships between microstructures, and processing for various materials.**~~Prerequisites: Met Eng 121, accompanied by Met Eng 217.~~Proposed: **Investigation of the relationships between microstructures, and processing for various materials.**~~Prerequisites: Accompanied or preceeded by Met Eng 217.~~5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **0** Lab **1** Total **1**Proposed: Lecture **1** Lab **1** Total **2**

7. Prerequisites:

Present: **Met 121**; accompanied or preceeded by **Met 217**Proposed: **Accompanied or preceeded by Met 217**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Increase credit hours due adding lecture section**

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

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

1)

3)

5)

2)

4)

6)

Recommended by Department

(Chair signature)

Date: **2/22/13**

Recommended by DSCC

(Chair signature)

Date: **3-11-13**

Approved by Curricula Committee:

(Chair signature)

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

Approved by Faculty Senate:

(Chair signature)

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

CC File # 8445-2013-MET ENG-261-31

Effective Year: **2013** Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)

1. Department: **Materials Science & Engineering**  
 2. Discipline and Course Number: Present: **Met 261** <sup>ENG</sup> Proposed:  
 3. Course Title: Present: **Materials Senior Design I**  
 Proposed:

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

## 4. Catalog Description (360 character spaces or less.)

Present: **Students working in groups will be assigned a capstone design project related to a specific materials technology. This course will focus on project plan and all aspects of product and process design. Prerequisite: Senior standing. (Co-listed with Cer Eng 261)**

Proposed: **Overview of the methods, approaches, and techniques required to execute materials related capstone senior design projects. Formation of teams, assignment of projects, review of department curriculum concepts and topics, and comprehensive project management skills needed to complete projects will be used as means to learn the design process. Prerequisite:**

5. If course requires field trip check box: ☐

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

## 7. Prerequisites:

Present: **Senior Standing**  
 Proposed: **Met 216** <sup>ENG</sup> and **Met 218** <sup>ENG</sup>, or **Cer 231** <sup>ENG</sup> with a "C" or better

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

9. Justification: **Increased hours needed to expand course content & expectations; prerequisite grade of "C" new dept. standard**

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

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

- 1) **Cer 261** <sup>ENG</sup> 3) 5)  
 2) 4) 6)

Recommended by Department

(Chair signature)

Date: 2/22/12

Recommended by DSCC

(Chair signature)

Date: 3-13-13

Approved by Curricula Committee:

(Chair signature)

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

Approved by Faculty Senate:

(Chair signature)

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

(Revised December 2012)

CC File # 8446-2013-MET ENG-262-31

Effective Year: <sup>2014</sup> ~~2013~~ Effective 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** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)

1. Department: **Materials Science & Engineering**  
 2. Discipline and Course Number: Present: **Met <sup>ENG</sup> 262** Proposed:  
 3. Course Title: Present: **Materials Senior Design II**

Proposed:

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

## 4. Catalog Description (360 character spaces or less.)

Present: **A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics. Prerequisite: Cer Eng 261 or Met Eng 261. (Co-listed with Cer Eng 262)**

Proposed: **A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics. Prerequisite: Cer Eng 261 or Met Eng 261 with "C" or better. (Co-listed with Cer Eng 262)**

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 0 Lab 2 Total 2  
 Proposed: Lecture 0 Lab 3 Total 3

7. Prerequisites: <sup>ENG</sup> **Cer 261 or Met <sup>ENG</sup> 261**

Proposed: <sup>ENG</sup> **Cer 261 or Met <sup>ENG</sup> 261 with "C" or better in either CER ENG 261 or MET ENG 261**

8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Increased hours needed to expand course content & expectations; Prerequisite grade requirement - new dept. standard to improve student success**

## 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) **Cer <sup>ENG</sup> 262** 3) 5)  
 2) 4) 6)

Recommended by Department

(Chair signature)

Date: 4/22/13

Recommended by DSCC

(Chair signature)

Date: 3-11-13

Approved by Curricula Committee:

(Chair signature)

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

Approved by Faculty Senate:

(Chair signature)

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

(Revised December 2012)