

**X Change a Course - Abbrev & Number: BIOE- 4400**

Corresponding Lab Course: --

Corresponding Honors course: --

.. **Add Honors course:** --

Corresponding Graduate course: BIOE--6400

.. **Add Graduate course:** --

**Course Title: Biotech for Bio E**

**Brief Statement of Change:**

We are updating the course title and making minor adjustments to the wording of the course description. Compared to our other technical elective courses, the title of this course is very generic and not readily recognizable by students. We are changing to a more specific title that is easily understood. Transcript title will be changed accordingly.

Last Term taught: 201308

Effective Term: 01/2015

.. **Change Abbrev to:**

.. **Change Number to:**

**X Change Catalog Title:**

from: Biotechnology for Bioengineers

to: Biopharmaceutical Engineering

..

**X Change Transcript Title:**

from: Biotech for Bio E

to: Biopharmaceutical Engineering

From: Fixed Credit: 3 (3,0) To: Fixed Credit: (,)

**Change of Credit:** Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. **Add cross-listing with the following child course(s):**

.. **Delete cross-listing with the following child course(s):**

.. **Reverse Parent/Child relationship with:**

**.. Change Method of Instruction**

**.. Change Course Modifier**

**.. Change General Education Designation**

from:	to:	from:	to:	from:	to:
X A-Lecture Only	.. .. Pass/Fail Only	..	.. Creative Inquiry	..	..
.. B-Lab (w/fee)	.. X Graded	..	.. English Composition	..	..
.. D-Seminar	.. .. Variable Title	..	.. Oral Communication	..	..
.. E-Independent Study	.. .. Creative Inquiry	..	.. Mathematics	..	..
.. F-Tutorial (w/fee)	.. .. Repeatable	..	.. Natural Science w/Lab	..	..
.. G-Studio	.. maximum credits	..	.. Natural Science w/Lab	..	..
.. H-Field course	.. from:	..	.. Math or Science	..	..
.. I-Study Abroad	.. to:	..	.. A&H (Literature)	..	..
.. L-Lab (no/fee)	..	..	.. A&H (Non-Literature)	..	..
.. N/B-Lecture/Lab(w/fee)	..	..	.. Social Science	..	..
.. N/L-Lecture/Lab(no fee)	..	..	.. CCA	..	..
		..	.. STS	..	..

**X Change Catalog Description:**

**from:** Explores the principles necessary to use microorganisms, tissue culture, and enzymes in bioengineering applications, including molecular techniques, fermentation, process scale-up, purification processes, and FDA regulations. Emphasizes production of biopharmaceuticals derived from recombinant systems, including uses in medical systems.

**to:** This course studies the design principles necessary to use bacteria, fungi, and mammalian cells in bioengineering applications, including molecular techniques, fermentation, process scale-up, purification processes, and FDA regulations. The production of biopharmaceuticals derived from recombinant systems, including uses in medical systems is emphasized.

**.. Change Prerequisite(s):**

**from:**

**to:**

**Learning Objectives:** Students will be able to: 1) Characterize the differences between bacteria, yeast, insect, and mammalian cells including cellular organization and major chemical components. 2) Solve cell growth problems using well-characterized bioreactor models. 3) Identify major recombinant DNA techniques using to develop the organism used for biopharmaceutical production. 4) Design industrial-scale reactors to produce cell mass and biopharmaceutical products, including stoichiometry and kinetics considerations. 5) Characterize how genetic engineering can be used to manufacture unique biopharmaceutical products from cells. 6) Design purification process for biopharmaceutical products.

**Topical Outline:** Topic Weeks of Coverage

Cell growth models 1.5

Microbial growth & product formation 1.5

Stoichiometry 1

Bioreactors (Selection, Scale-up, Operation & Control) 3

Bioreactors Sterilization 1

Recombinant organisms (Microbial & Animal cell cultures) 3

Recovery & purification of biopharmaceutical products 3

FDA regulatory guidelines 1

**Evaluation:** BioE 4400 Course grading

Homework 40%

Exams (3) 13% each  
Final Exam 21%

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BioE 4400 Grade Assignments

A 90 - 100%  
B 80 - 90%  
C 70 - 80%  
D 60 - 70%  
F < 60%

BioE 6400 Course grading

Homework 35%  
Project 15%  
Exams (3) 10% each  
Final Exam 20%

BioE 6400 Grade Assignments

A 90 - 100%  
B 80 - 90%  
C 70 - 80%  
F < 70%

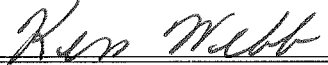

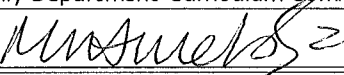
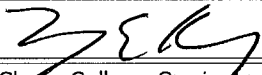
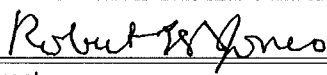
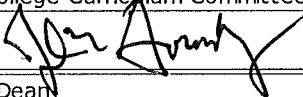
**Add course requirements for honors and/or 600-level courses (if applicable):** BioE 6400: Projects will be an all semester assignment. Students will research a commercial biopharmaceutical, determine how it developed (including any patent information), outline or propose how it is manufactured including the cell culture and purification steps, and present these findings to the class.

**Form Originator:** KWEBB, Webb, Charles K **Date Form Created:** 9/2/2014

**Form Last Updated by:** KWEBB, Webb, Charles K **Date Form Last Updated:** 9/4/2014

**Form Number:** 7524

**Approval**

	9/3/14		10/3/2014
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	9/4/14		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	9/19/14		11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
	9/23/14		
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		



## Curriculum and Course Change System - Print Change/Delete Course Form

000154

**X Change a Course - Abbrev & Number: CH- 1010**

Corresponding Lab Course: CH--1011

Corresponding Honors course: CH--1010

**.. Add Honors course: --**

Corresponding Graduate course: --

**.. Add Graduate course: --****Course Title: General Chemistry****Brief Statement of Change:**

The Department of Chemistry wishes to modify the existing pre-requisite for the course in order to ensure undergraduate students are adequately prepared for CH 1010 and have the appropriate Math background. Additionally, we wish to make the acceptable pre-requisites more obvious in terms of acceptable coursework. In the end, this will make enrollment in to CH 1010 easier for transfer students and students with Advanced Placement credit.

Last Term taught: 201405

**.. Change Abbrev to:**

Effective Term: 01/2015

**.. Change Number to:****.. Change Catalog Title:****.. Change Transcript Title:**

from:

from: General Chemistry

to:

to:

From: Fixed Credit: 4 (3,3) To: Fixed Credit: (,)

Variable Credit: - (-), (-) Variable Credit: - (-),(-)

**.. Add cross-listing with the following child course(s):****.. Delete cross-listing with the following child course(s):****.. Reverse Parent/Child relationship with:****.. Change Method of Instruction****.. Change Course Modifier****.. Change General Education Designation**

from:

to:

from:

to:

from:

to:

.. A-Lecture Only

.. .. Pass/Fail Only

..

.. Creative Inquiry

..

.. B-Lab (w/fee)

.. X Graded

..

.. English Composition

..

.. D-Seminar

.. .. Variable Title

..

.. Oral Communication

..

.. E-Independent Study

.. .. Creative Inquiry

..

.. Mathematics

..

.. F-Tutorial (w/fee)

.. .. Repeatable

..

.. Natural Science w/Lab

..

.. G-Studio

.. maximum credits

.. Natural Science w/Lab

..

.. H-Field course

.. from:

.. Math or Science

..

.. I-Study Abroad

.. to:

.. A&amp;H (Literature)

..

.. L-Lab (no/fee)

..

.. A&amp;H (Non-Literature)

..

X N/B-Lecture/Lab(w/fee)

..

.. Social Science

..

.. N/L-Lecture/Lab(no fee)

..

.. CCA

..

.. STS

..

**.. Change Catalog Description:**

from:

to:

**X Change Prerequisite(s):****from:** CMPT score of 65 or higher or preq or concurrent enrollment: MATH 1010 or MATH 1020 or MATH 1030 or MATH 1050.**to:** CMPT score of 60 or higher; or completion of CH 1040 or MATH 1050; or a C or better in MATH 1010, 1020, or 1030; or concurrent enrollment in MATH 1040/1060, 1080, 2060, 2080, or STAT 2300.**Learning Objectives:** 1070**Topical Outline:****Evaluation:****Form Originator:** CRISP, Crisp,Ashley E **Date Form Created:** 9/1/2014**Form Last Updated by:** CRISP, Crisp,Ashley E **Date Form Last Updated:** 9/9/2014**Form Number:** 7523**Approval**

Chair, Department Curriculum Committee

Date

9/9/14

Chair, Undergraduate Curriculum Committee

Date

10/3/2014

Department Chair

Date

09-08-14

Chair, Graduate Curriculum Committee

Date

Chair, College Curriculum Committee

Date

9/19/14

Provost

Date

11/5/2014

College Dean

Date

9/23/14

President

Date



## Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev &amp; Number: CH- 4210

Corresponding Lab Course: --

Corresponding Honors course: CH--4210

.. Add Honors course: --

Corresponding Graduate course: CH--6210

.. Add Graduate course: --

Course Title: Adv Organic Chem

**Brief Statement of Change:**

The prerequisite for taking CH 3320 is being removed for CH4210, CH4210H, and CH6210. The CH 3320 prerequisite is not needed for success in the course. Historically, the 3320 (Physical Chemistry II) prerequisite was put in place since the Advanced Organic Course comprises a portion of Physical organic chemistry. In practice, however, an introduction to the basic principles of physical organic chemistry does not require two semesters of physical chemistry. Rather the foundation present from general chemistry should be sufficient. The removal of the prerequisite will more accurately reflect the way in which the course has been taught historically. The level of difficulty of the physical organic portion of the course does not warrant the Physical Chemistry II (3320) prerequisite. The current CH3320 prerequisite makes it very difficult for junior undergraduates to enroll for the course, and effectively inserts a year in between their last organic experience and CH 4210. The option of allowing the student to flow directly into CH4210 after a year of CH2230 and CH2240 will enhance the likelihood for success of undergraduate enrollees by minimizing learning-loss from the one-year hiatus.

Last Term taught: 201308.. Change Abbrev to:

Effective Term: 01/2015 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Adv Organic Chem

to: to:

.. From: Fixed Credit: 3 (3,0) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction	.. Change Course Modifier	.. Change General Education Designation
from: to:	from: to:	from: to:
X A-Lecture Only	.. .. Pass/Fail Only	.. .. Creative Inquiry
.. B-Lab (w/fee)	.. X Graded	.. .. English Composition
.. D-Seminar	.. .. Variable Title	.. .. Oral Communication
.. E-Independent Study	.. .. Creative Inquiry	.. .. Mathematics
.. F-Tutorial (w/fee)	.. .. Repeatable	.. .. Natural Science w/Lab
.. G-Studio	.. maximum credits	.. .. Natural Science w/Lab
.. H-Field course	.. from:	.. .. Math or Science
.. I-Study Abroad	.. to:	.. .. A&H (Literature)
.. L-Lab (no/fee)	.. ..	.. .. A&H (Non-Literature)
.. N/B-Lecture/Lab(w/fee)	.. ..	.. .. Social Science
.. N/L-Lecture/Lab(no fee)	.. ..	.. .. CCA
		.. .. STS

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: CH 2240, 3320, or equivalent.

to: For enrollment in CH4210 or CH4210H: CH 2240 or equivalent. For enrollment in CH6210: Graduate standing.

Learning Objectives:

Topical Outline:



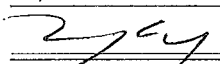
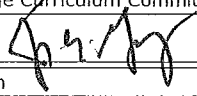
Evaluation:

Form Originator: DWHITEH, Whitehead, Daniel C Date Form Created: 8/29/2014

Form Last Updated by: DWHITEH, Whitehead, Daniel C Date Form Last Updated: 9/5/2014

Form Number: 7520

Approval

	9/10/2014		10/3/2014
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
R. Karl Dieter	09-08-14	W. J. Full	10/15/14
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	9/19/14	Robert W. Jones	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
	9/23/14		
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

000129

## Add Undergraduate Course

### Course Attributes

**Subject Abbreviation:** EES-Env Engr and Science      **Catalog Title:** INTRODUCTION TO NUCLEAR ENGINEERING ☐ **Additional Fee?**  
**Course Number:** 3100      **Transcript Title:** INTRO TO NUCLEAR ENGINEERING      **Justification**  
**Effective Term:** Spring 2015      **Cross-reference(s):**  
**College:** Engineering and Science      **Grade Mode:** Standard Letter  
**Department:** Environmental Engr & Earth Sci

#### Form

**User ID:** devol      **Name:** Timothy Devol  
**Date:** 09/18/2014 **Number:** 3222

#### Syllabus

**Upload File:** EES3100Syllabus-20140918152254.docx

**Description:** Syllabus for Spring 2015

#### Hours

**Fixed Credit Course**  
**Credit Hrs Contact Hrs**

3      3

**Variable Credit Course**  
**Credit Hrs Contact Hrs**  
**Min Max Min Max**

#### Rationale for Add Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☒ Evolution of the Discipline
- ☐ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

#### Schedule Types

- ☐ Field Course
- ☐ Independent Study
- ☐ Internship
- ☐ Lab No Fee
- ☐ Lab With Fee
- ☒ Lecture
- ☐ Other
- ☐ Seminar
- ☐ Studio
- ☐ Tutorial

#### Projected Enrollment

**Year 1:** 20  
**Year 2:** 25  
**Year 3:** 30  
**Year 4:** 30

#### Evaluation

Undergraduate

**A** 90 - 100  
**B** 80 - 89  
**C** 70 - 79  
**D** 60 - 69  
**F** < 60

Quizzes\* (12) 15 % Exam #1 15 % Exam #2 15 % Final Exam  
 (required) 25 % Problem Sets\*\* (11) 30 % \*No make up quizzes,  
 lowest two grades will be dropped for determination of the final  
 grade. \*\*Lowest problem set grade will be dropped for  
 determination of the final grade.

### Catalog Description

Technological, industrial and medical applications of ionizing radiation and radioactive materials. Topics to be covered include: basic nuclear physics, interactions of radiation with matter, radiation detection and measurement, fission reactors, and the nuclear fuel cycle.

☒ **Prerequisite(s)** ☐ **Corequisite(s)**

Grade of a C or better in MthSC 2080.

**Required course for students in**

NERS minor

9/18/2014

Add Undergraduate Course - Curriculum & Course Change System

**Statement of need and justification based on assessment of student learning outcomes**

000167

New course being developed to support a Nuclear Regulatory Commission Scholarship grant that was recently awarded.

**Textbook(s)**

J. Kenneth Shultis and Richard E. Faw, Fundamentals of Nuclear Science and Engineering, 2nd edition, CRC Press, 2007.

**Learning Objectives**

Course Objectives: to study radiation, radioactivity and radioactive decay, to study basics of radiation interactions in matter and radiation detection, to study the basics of nuclear power reactors and the nuclear fuel cycle, to study the applications of nuclear energy in industry and medicine, and to lay the foundation for further study in nuclear engineering and radiological sciences. Learning Outcomes: Classify the difference between ionizing radiation and radioactivity, Evaluate possible risks and benefits of radiation and radioactivity, Identify means to protect the general public from radiation and radioactivity. Explain the basic operations of a nuclear power plant

**Topical Outline**

Fundamental Concepts; Modern Physics Concepts Atomic/Nuclear Models Nuclear Energetics Radioactivity Binary Nuclear Reactions Radiation Interactions in Matter Detection and Measurement of Radiation Radiation Doses and Hazard Assessment Nuclear Reactors Nuclear Fuel Cycle Nuclear Technology in Industry and Research Medical Applications of Nuclear Technology

9/18/2014

Add Undergraduate Course - Curriculum & Course Change System

000168

Chair, Department Curriculum Committee	9/19/14
David L. Freeman	Date
Department Chair	9/19/14
	Date
Chair, College Curriculum Committee	9/19/14
J. R. Jones	Date
College Dean	9/21/14
	Date
Director, Calhoun Honors College	
Carice W. Michael	10/3/2014
Chair, Undergraduate Curriculum Committee	Date
Chair, Graduate Curriculum Committee	
Robert W. Jones	11/5/2014
Provost	Date
President	
	Date

10/3 The committee approved with a proper topical outline. See attached

*Topical Outline with hours added***Add Undergraduate Course****Course Attributes****Subject Abbreviation:**EES-Env Engr and Science**Course Number:** 3100**Effective Term:** Spring 2015**College:** Engineering and Science**Department:** Environmental Engr & Earth Sci**Catalog Title:** INTRODUCTION TO NUCLEAR ENGINEERING**Transcript Title:** INTRO TO NUCLEAR ENGINEERING**Cross-reference(s):****Grade Mode:** Standard Letter☐ **Additional Fee?**

Justification

**Form****User ID:** devol **Name:** Timothy Devol  
**Date:** 10/22/2014 **Number:** 3903**Syllabus**

Upload File: EES3100Syllabus-20140918152254.docx

**Description:** Syllabus for Spring 2015**Hours****Fixed Credit Course****Credit Hrs** **Contact Hrs**

3 3

**Variable Credit Course****Credit Hrs** **Contact Hrs****Min** **Max** **Min** **Max****Rationale for Add Course**

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☒ Evolution of the Discipline
- ☐ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

**Schedule Types**

- ☐ Field Course
- ☐ Independent Study
- ☐ Internship
- ☐ Lab No Fee
- ☐ Lab With Fee
- ☒ Lecture
- ☐ Other
- ☐ Seminar
- ☐ Studio
- ☐ Tutorial

**Projected Enrollment****Year 1:** 20**Year 2:** 25**Year 3:** 30**Year 4:** 30**Evaluation**

Undergraduate

**A** 90 - 100**B** 80 - 89**C** 70 - 79**D** 60 - 69**F** < 60

Quizzes\* (12) 15 % Exam #1 15 % Exam #2 15 % Final Exam (required) 25 % Problem Sets\*\* (11) 30 % \*No make up quizzes, lowest two grades will be dropped for determination of the final grade. \*\*Lowest problem set grade will be dropped for determination of the final grade.

**Catalog Description**

Technological, industrial and medical applications of ionizing radiation and radioactive materials. Topics to be covered include: basic nuclear physics, interactions of radiation with matter, radiation detection and measurement, fission reactors, and the nuclear fuel cycle.

☒ **Prerequisite(s)** ☐ **Corequisite(s)**

Grade of a C or better in MthSC 2080.

**Required course for students in**



NERS minor

**Statement of need and justification based on assessment of student learning outcomes**

New course being developed to support a Nuclear Regulatory Commission Scholarship grant that was recently awarded.

**Textbook(s)**

J. Kenneth Shultis and Richard E. Faw, Fundamentals of Nuclear Science and Engineering, 2nd edition, CRC Press, 2007.

**Learning Objectives**

Course Objectives: to study radiation, radioactivity and radioactive decay, to study basics of radiation interactions in matter and radiation detection, to study the basics of nuclear power reactors and the nuclear fuel cycle, to study the applications of nuclear energy in industry and medicine, and to lay the foundation for further study in nuclear engineering and radiological sciences. Learning Outcomes: Classify the difference between ionizing radiation and radioactivity, Evaluate possible risks and benefits of radiation and radioactivity, Identify means to protect the general public from radiation and radioactivity. Explain the basic operations of a nuclear power plant

**Topical Outline**

Fundamental Concepts (3 hrs); Modern Physics Concepts (3 hrs); Atomic/Nuclear Models (3 hrs); Nuclear Energetics (1.5 hrs); Radioactivity (4.5 hrs); Binary Nuclear Reactions (3 hrs); Radiation Interactions in Matter (3 hrs); Detection and Measurement of Radiation (6 hrs); Radiation Doses and Hazard Assessment (3 hrs); Nuclear Reactors (6 hrs); Nuclear Fuel Cycle (3 hrs); Nuclear Technology in Industry and Research (3 hrs); Medical Applications of Nuclear Technology (3 hrs)

Chair, Department Curriculum Committee	Date
Department Chair	Date
Chair, College Curriculum Committee	Date
College Dean	Date
Director, Calhoun Honors College	Date
Chair, Undergraduate Curriculum Committee	Date
Chair, Graduate Curriculum Committee	Date
Provost	Date
President	Date

000169

**Add Undergraduate Course****Course Attributes**

**Subject Abbreviation:** EES-Env Engr and Science      **Catalog Title:** Nuclear Fuel Cycle and Radioactive Waste Management  
**Course Number:** 4120      **Transcript Title:** Nuclear Fuel Cycle  
**Effective Term:** Fall 2015      **Cross-reference(s):**  
**College:** Engineering and Science      **Grade Mode:** Standard Letter  
**Department:** Environmental Engr & Earth Sci ☐ **Additional Fee?**

Justification

**Form**

**User ID:** lshulle      **Name:** Lindsay Shuller-Nickles  
**Date:** 09/18/2014 **Number:** 3202

**Syllabus**

Upload File: EEES4120\_Fall2015-20140918133529.docx

**Description:** EEES4120\_Fall2015\_Syllabus**Hours****Fixed Credit Course**

Credit Hrs Contact Hrs

3      3

**Variable Credit Course**

Credit Hrs Contact Hrs

Min Max Min Max

**Rationale for Add Course**

- ☒ Strengthen Program Requirement(s)  
☒ Alignment of Student Learning Outcomes  
☐ Alternative Delivery of Content  
☐ Improve Time to Degree  
☒ Evolution of the Discipline  
☐ Changing Prerequisites  
☐ Address DWF Rates  
☐ General Education Modifications  
☐ Other (Please specify.)

**Schedule Types**

- ☐ Field Course  
☐ Independent Study  
☐ Internship  
☐ Lab No Fee  
☐ Lab With Fee  
☒ Lecture  
☐ Other  
☐ Seminar  
☐ Studio  
☐ Tutorial

**Projected Enrollment**

**Year 1:** 15  
**Year 2:** 20  
**Year 3:** 30  
**Year 4:** 30

**Evaluation**

## Undergraduate

**A** 90 - 100  
**B** 80 - 89  
**C** 70 - 79  
**D** 60 - 69  
**F** < 60

Exams (x2) 30 % Final Exam 15 % Homework (x5) 25 %

Group Projects (x2) 20 % Quizzes 10 %

**Catalog Description**

Materials flow throughout the nuclear fuel cycle emphasizing safe handling of radioactive material; environmental aspects of fuel cycle activities; radioactive waste management; nuclear nonproliferation and safeguards; nuclear forensics.

☒ **Prerequisite(s)**    ☒ **Corequisite(s)**

9/18/14

Add Undergraduate Course - Curriculum &amp; Course Change System

Prerequisite: EES 3100 Corequisite: EES 4100

Concurrent registration in 4100 "

**Statement of need and justification based on assessment of student learning outcomes**

Interest expressed by students in geology and environmental engineering. Large enrollment of ME 4260 shows cross-disciplinary interest in nuclear energy topics.

**Textbook(s)**

The Nuclear Fuel Cycle: Analysis and Management, 3rd Edition, Nicholas Tsoulfanidis, American Nuclear Society (2013). Older editions may work, as well, but be sure to confirm assignments with the new edition.

**Learning Objectives**

- Sketch the nuclear fuel cycle and identify the materials (products and waste) flow throughout.
- Identify long term vs. short term risk drivers for facilities and processes throughout the nuclear fuel cycle.
- Discuss possible disposal options for different types of radioactive waste based on knowledge of the scientific, as well as political challenges, surrounding waste disposal.

**Topical Outline**

1. Intro to the Nuclear Fuel Cycle (3 MWF lectures) 2. Front end: mining, milling, conversion, enrichment, fuel fabrication (6 MWF lectures) 3. Nuclear reactors intro (3 MWF lectures) 4. Linking legacies (5 MWF lectures) 5. Spent Nuclear Fuel (4 MWF lectures) 6. Reprocessing (3 MWF lectures) 7. Nuclear Waste Forms (5 MWF lectures) 8. Geologic Disposal (5 MWF lectures) 9. Low Level Waste (3 MWF lectures) 10. Nuclear Nonproliferation and Safeguards (3 MWF lectures) 11. Nuclear Forensics (3 MWF lectures) 12. Two course exams (2 MWF lectures)

9/18/14

Add Undergraduate Course - Curriculum & Course Change System

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Chair, Department Curriculum Committee

Department Chair

Chair, College Curriculum Committee

College Dean

Director, Calhoun Honors College

Chair, Undergraduate Curriculum Committee

Chair, Graduate Curriculum Committee

Provost

President

Date

Date

Date

Date

Date

Date

Date

Date

Date

9/19/2014

9/19/14

9/19/14

9/25/14

10/3/2014

11/5/2014



## Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev &amp; Number: EES- 4500

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course:-

Corresponding Graduate course: --

.. Add Graduate course:-

Course Title: Professional Seminar

**Brief Statement of Change:**

The prerequisites are being changed to reflect the change in courses within the environmental curriculum. The change is to replace the water and wastewater classes with the current courses required in the major

Last Term taught: 201308 .. Change Abbrev to:

Effective Term: 01/2015 .. Change Number to:

.. Change Catalog Title: Change Transcript Title:

from: from: Professional Seminar

to:

.. From: Fixed Credit: 1 (1,0) To: Fixed Credit: (,)

Change of Credit: Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/ Child relationship:

Change Method of Instruction	Change Course Modifier	General Education Designation
from:	to:	from:
.. A-Lecture Only	.. Pass/Fail Only	.. Creative Inquiry
.. B-Lab (w/fee)	.. X Graded	.. English Composition
X D-Seminar	.. Variable Title	.. Oral Communication
.. E-Independent Study	.. Creative Inquiry	.. Mathematics
.. F-Tutorial (w/fee)	.. Repeatable	.. Natural Science w/Lab
.. G-Studio	.. maximum credits	.. Natural Science w/Lab
.. H-Field course	from:	.. Math or Science
.. I-Study Abroad	to:	.. A&H (Literature)
.. L-Lab (no/fee)		.. A&H (Non-Literature)
.. N/B-Lecture/Lab(w/fee)		.. Social Science
.. N/L-Lecture/Lab(no fee)		.. CCA
		.. STS



## Curriculum and Course Change System - Print Change/Delete Course Form

**X Change a Course - Abbrev & Number: EES- 4750**

Corresponding Lab Course: EES--4751

Corresponding Honors course: --

**.. Add Honors course:-**

Corresponding Graduate course: --

**.. Add Graduate course:-****Course Title: Capstone Design Project****Brief Statement of Change:**

The prerequisites are being changed to reflect the change in courses within the environmental curriculum. The change is to replace the water and wastewater classes with the current courses required in the major.

Last Term taught: 201401 **.. Change Abbrev to:**Effective Term: 08/2015 **.. Change Number to:****.. Change Catalog Title: Change Transcript Title:**

from: from: Capstone Design Project

to: to:

**..** From: Fixed Credit: 3 (1,6) To: Fixed Credit: (,)**Change of Credit:** Variable Credit: - (-), (-) Variable Credit: - (-),(-)**.. Add cross-listing with the following child course(s):****.. Delete cross-listing with the following child course(s):****.. Reverse Parent/ Child relationship:**

<b>.. Change Method of Instruction</b>	<b>.. Change Course Modifier</b>	<b>.. Change General Education Designation</b>
--	----------------------------------	--

from:	to:	from:	to:	from:	to:
.. A-Lecture Only	.. .. Pass/Fail Only	..	.. Creative Inquiry	..	
.. B-Lab (w/fee)	.. X Graded	..	.. English Composition	..	
.. D-Seminar	.. .. Variable Title	..	.. Oral Communication	..	
.. E-Independent Study	.. .. Creative Inquiry	..	.. Mathematics	..	
.. F-Tutorial (w/fee)	.. .. Repeatable	..	.. Natural Science w/Lab	..	
.. G-Studio	.. maximum credits	..	.. Natural Science w/Lab	..	
.. H-Field course	.. from:	..	.. Math or Science	..	
.. I-Study Abroad	.. to:	..	.. A&H (Literature)	..	
.. L-Lab (no/fee)	..	..	.. A&H (Non-Literature)	..	
X N/B-Lecture/Lab(w/fee)	..	..	.. Social Science	..	
.. N/L-Lecture/Lab(no fee)	..	..	.. CCA	..	
		..	.. STS	..	

**.. Change Catalog Description:**

from:

to:

**X Change Prerequisite(s):**

from: Preq: CE 3410 and EES 4020 and EES 4030 and EES 4300. Coreq: EES 4751.

to: Preq: CE 3410 and EES 3030 and EES 3040 and EES 3050 and EES 4300. Coreq: EES 4751.

**Learning Objectives:****Topical Outline:****Evaluation:****Form Originator:** TJVRC, Overcamp, Thomas J **Date Form Created:** 6/7/2014**Form Last Updated by:** TJVRC, Overcamp, Thomas J **Date Form Last Updated:** 6/17/2014**Form Number:** 7451**Approval**

Chair, Department Curriculum Committee	Date		10/3/2014
Chair, Undergraduate Curriculum Committee	Date		
Department Chair	Date		
	9/11/14	Robert B. Jones	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
	9/19/14		
College Dean	Date	President	Date
	9/24/14		
Director, Calhoun Honors College	Date		

X Change a Course - Abbrev & Number: MSE- 2100

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: Intro to Mat Science

000174

## Brief Statement of Change:

Change the prerequisite of MATH 1080 to "Prerequisite or Concurrent Enrollment"

Last Term taught: 201405 .. Change Abbrev to:

Effective Term: 01/2015 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Intro to Mat Science

to: to:

.. From: Fixed Credit: 3 (3,0) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction	.. Change Course Modifier	.. Change General Education Designation
from: to:	from: to:	from: to:
X A-Lecture Only	.. Pass/Fail Only	.. Creative Inquiry
.. B-Lab (w/fee)	.. X Graded	.. English Composition
.. D-Seminar	.. Variable Title	.. Oral Communication
.. E-Independent Study	.. Creative Inquiry	.. Mathematics
.. F-Tutorial (w/fee)	.. Repeatable	.. Natural Science
.. G-Studio	.. maximum credits	.. w/Lab
.. H-Field course	from:	.. Natural Science
.. I-Study Abroad	to:	.. w/Lab
.. L-Lab (no/fee)		.. Math or Science
N/B-		.. A&H (Literature)
.. Lecture/Lab(w/fee)		.. A&H (Non-Literature)
N/L-Lecture/Lab(no		.. Social Science
.. fee)		.. CCA
		.. STS

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq: CH 1010 and MATH 1080.

to: Preq: CH 1010, Preq or concurrent enrollment: MATH 1080.

Learning Objectives:

Topical Outline:

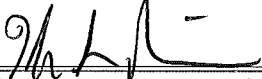
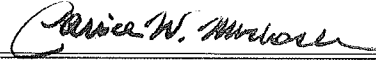
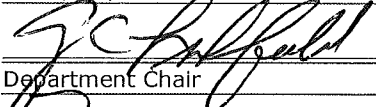
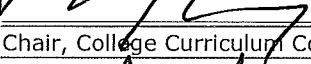
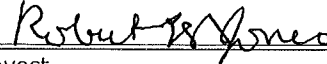
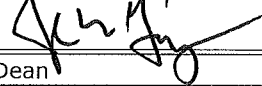
Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 8/19/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 9/15/2014

Form Number: 7507

## Approval

	9/18/2014		10/3/2014
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	9/17/14		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	9/19/14		11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
	9/23/14		
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		



X Change a Course - Abbrev & Number: MSE- 3280

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: Phase Diagrams

**Brief Statement of Change:**

Change Prerequisite

Last Term taught: 201401.. Change Abbrev to:

Effective Term: 01/2015 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Phase Diagrams

to: to:

.. From: Fixed Credit: 3 (3,0) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction .. Change Course Modifier .. Change General Education Designation

from:	to:	from:	to:	from:	to:
X A-Lecture Only	.. .. Pass/Fail Only	.. .. Creative Inquiry	..	.. Creative Inquiry	..
.. B-Lab (w/fee)	.. X Graded	.. .. English Composition	..	.. English Composition	..
.. D-Seminar	.. .. Variable Title	.. .. Oral Communication	..	.. Oral Communication	..
.. E-Independent Study	.. .. Creative Inquiry	.. .. Mathematics	..	.. Mathematics	..
.. F-Tutorial (w/fee)	.. .. Repeatable	.. .. Natural Science	..	.. Natural Science	..
.. G-Studio	.. maximum credits	.. w/Lab	..	.. w/Lab	..
.. H-Field course	.. from:	.. .. Natural Science	..	.. Natural Science	..
.. I-Study Abroad	.. to:	.. w/Lab	..	.. w/Lab	..
.. L-Lab (no/fee)	..	.. Math or Science	..	.. Math or Science	..
N/B-	..	.. A&H (Literature)	..	.. A&H (Literature)	..
.. Lecture/Lab(w/fee)	..	.. A&H (Non-Literature)	..	.. A&H (Non-Literature)	..
N/L-Lecture/Lab(no	..	.. Social Science	..	.. Social Science	..
.. fee)	..	.. CCA	..	.. CCA	..
		.. STS	..	.. STS	..

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq: MSE 3260

to: Preq: MSE 3260 or CH 3310

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 8/8/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 8/8/2014

Form Number: 7496

**Approval**

Chair, Department Curriculum Committee	Date	<i>Barbara W. Murrell</i>	10/3/2014
<i>PJ</i>	8/27	Chair, Undergraduate Curriculum Committee	Date
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert Jones</i>	9/8/14	<i>Robert Jones</i>	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
<i>27</i>	9/19/14		
College Dean	Date	President	Date
<i>John</i>	9/21/14		
Director, Calhoun Honors College	Date		

X Change a Course - Abbrev & Number: MSE- 3950

Corresponding Lab Course: --

Corresponding Honors course: MSE--3950

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: Honors Research I

**Brief Statement of Change:**

Change prerequisite - remove one course.

Last Term taught: 201401.. Change Abbrev to:

Effective Term: 08/2014 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Honors Research I

to: to:

.. From: Fixed Credit: 3 (0,0) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction .. Change Course Modifier .. Change General Education Designation

from: to: from: to: from: to:

.. A-Lecture Only .. .. Pass/Fail Only .. .. Creative Inquiry ..

.. B-Lab (w/fee) .. X Graded .. English ..

.. D-Seminar .. .. Variable Title .. .. Composition ..

E-Independent .. .. Creative Inquiry .. Oral ..

X Study .. .. Repeatable .. .. Communication ..

.. F-Tutorial (w/fee) .. maximum credits .. Mathematics ..

.. G-Studio .. from: .. Natural Science ..

.. H-Field course .. to: .. w/Lab ..

.. I-Study Abroad .. .. Natural Science ..

.. L-Lab (no/fee) .. .. w/Lab ..

N/B-Lecture .. .. Math or Science ..

.. /Lab(w/fee) .. .. A&H (Literature) ..

N/L-Lecture/Lab(no .. A&H ..

.. fee) .. .. (Non-Literature) ..

.. Social Science ..

.. CCA ..

.. STS ..

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq or concurrent enrollment: MSE 3270 and MSE 3280.

to: Preq or concurrent enrollment: MSE 3270.

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 6/3/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 6/3/2014

Form Number: 7436

**Approval**

Chair, Department Curriculum Committee	Date	<i>Janice W. Mulcahy</i>	10/3/2014
<i>PJ B...</i>	8/27	Chair, Undergraduate Curriculum Committee	Date
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert Jones</i>	9/8/14	<i>Robert Jones</i>	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
<i>224</i>	7/19/14		
College Dean	Date	President	Date
<i>Jan B...</i>	9/23/14		

X Change a Course - Abbrev & Number: MSE- 4020

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: MSE--6020

.. Add Graduate course: --

Course Title: Solid State Material

**Brief Statement of Change:**

Change prerequisites

Last Term taught: 201308 .. Change Abbrev to:

Effective Term: 08/2014 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Solid State Material

to: to:

.. From: Fixed Credit: 3 (3,0) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction .. Change Course Modifier .. Change General Education Designation

from:	to:	from:	to:	from:	to:
X A-Lecture Only	..	.. Pass/Fail Only	..	.. Creative Inquiry	..
.. B-Lab (w/fee)	..	X Graded	..	English	..
.. D-Seminar	..	.. Variable Title	..	.. Composition	..
E-Independent	..	.. Creative Inquiry	..	Oral	..
.. Study	..	.. Repeatable	..	.. Communication	..
.. F-Tutorial (w/fee)	..	maximum credits	..	.. Mathematics	..
.. G-Studio	..	from:	..	Natural Science	..
.. H-Field course	..	to:	..	w/Lab	..
.. I-Study Abroad	..		..	Natural Science	..
.. L-Lab (no/fee)	..		..	w/Lab	..
N/B-Lecture	..		..	.. Math or Science	..
.. /Lab(w/fee)	..		..	.. A&H (Literature)	..
N/L-Lecture/Lab(no	..		..	A&H	..
.. fee)	..		..	.. (Non-Literature)	..
			..	.. Social Science	..
			..	.. CCA	..
			..	.. STS	..

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq: MSE 3260 and MATH 2080 and PHYS 2210.

to: Preq: MSE 3260 or CH 3310, and MATH 2080 and PHYS 2210.

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 6/3/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 6/3/2014

Form Number: 7437

Approval

Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>P. B. B.</i>	8/27		10/3/2014
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>P. B. B.</i>	9/8/14	<i>Robert R. Jones</i>	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
<i>27</i>	9/9/14		
College Dean	Date	President	Date
<i>4/2/15</i>	4/2/15		

X Change a Course - Abbrev & Number: MSE- 4070

Corresponding Lab Course: MSE--4071

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: Senior Capstone Design

**Brief Statement of Change:**

Change prerequisites

Last Term taught: 201401.. Change Abbrev to:

Effective Term: 08/2014 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Senior Capstone Design

to: to:

.. From: Fixed Credit: 3 (1,6) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction	.. Change Course Modifier	.. Change General Education Designation
from: to:	from: to:	from: to:
.. A-Lecture Only	.. Pass/Fail Only	.. Creative Inquiry
.. B-Lab (w/fee)	.. X Graded	.. English
.. D-Seminar	.. Variable Title	.. Composition
.. E-Independent	.. Creative Inquiry	.. Oral
.. Study	.. Repeatable	.. Communication
.. F-Tutorial (w/fee)	.. maximum credits	.. Mathematics
.. G-Studio	from:	.. Natural Science
.. H-Field course	to:	.. w/Lab
.. I-Study Abroad		.. Natural Science
.. L-Lab (no/fee)		.. w/Lab
.. N/B-Lecture		.. Math or Science
.. /Lab(w/fee)		.. A&H (Literature)
.. N/L-Lecture/Lab(no		.. A&H
.. X fee)		.. (Non-Literature)
		.. Social Science
		.. CCA
		.. STS

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq: IE 3840.Preq or concurrent enrollment: MSE 4410.Coreq: MSE 4071.

to: Preq: IE 3840.Coreq: MSE 4071.

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 6/3/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 6/3/2014

Form Number: 7438

Approval

Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>P. J. R.</i>	8/27	<i>Janice W. Mendenhall</i>	10/3/2014
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>R. B. L.</i>	9/8/14	<i>Robert R. Jones</i>	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
<i>2/4</i>	9/9/14		
College Dean	Date	President	Date
<i>Jeffrey</i>	9/23/14		

X Change a Course - Abbrev & Number: MSE- 4150

Corresponding Lab Course: --

Corresponding Honors course: MSE--4150

.. Add Honors course: --

Corresponding Graduate course: MSE--6150

.. Add Graduate course: --

Course Title: Polymer Sc Engr

**Brief Statement of Change:**

Change Prerequisites

Last Term taught: 201308

.. Change Abbrev to:

Effective Term: 08/2014

.. Change Number to:

.. Change Catalog Title:

.. Change Transcript Title:

from:

from: Polymer Sc Engr

to:

to:

.. From: Fixed Credit: 3 (3,0) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method  
of Instruction

.. Change Course Modifier

.. Change General Education Designation

from:	to:	from:	to:	from:	to:
X A-Lecture Only	..	.. Pass/Fail Only	..	.. Creative Inquiry	..
.. B-Lab (w/fee)	..	X Graded	..	English	..
.. D-Seminar	..	.. Variable Title	..	.. Composition	..
E-Independent	..	.. Creative Inquiry	..	Oral	..
.. Study	..	.. Repeatable	..	.. Communication	..
.. F-Tutorial (w/fee)	..	maximum credits	..	.. Mathematics	..
.. G-Studio	..	from:	..	Natural Science	..
.. H-Field course	..	to:	..	.. w/Lab	..
.. I-Study Abroad	..		..	Natural Science	..
.. L-Lab (no/fee)	..		..	.. w/Lab	..
N/B-Lecture	..		..	.. Math or Science	..
.. /Lab(w/fee)	..		..	.. A&H (Literature)	..
N/L-Lecture/Lab(no	..		..	A&H	..
.. fee)	..		..	.. (Non-Literature)	..
			..	.. Social Science	..
			..	.. CCA	..
			..	.. STS	..

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq: CH 2240; or both CH 2010 or CH 3300.

to: Preq: CH 2240 or CH 2010

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 6/3/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 6/3/2014

Form Number: 7439

Approval

Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>PJD</i>	8/27	<i>Carice W. Murchison</i>	10/3/2014
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert W. Jones</i>	9/8/14	<i>Robert W. Jones</i>	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
<i>W. L. Lickfield</i>	9/19/14		
College Dean	Date	President	Date
<i>W. L. Lickfield</i>	9/20/14		

X Change a Course - Abbrev & Number: MSE- 4450

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: Practice of Mat Engr

**Brief Statement of Change:**

Change Prerequisite

Last Term taught: 201401

.. Change Abbrev to:

Effective Term: 08/2014

.. Change Number to:

.. Change Catalog Title:

.. Change Transcript Title:

from:

from: Practice of Mat Engr

to:

to:

.. From: Fixed Credit: 1 (1,0) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method  
of Instruction

.. Change Course Modifier

.. Change General Education Designation

from:

to:

from:

to:

from:

to:

.. A-Lecture Only

.. X Pass/Fail Only

..

.. Creative Inquiry

..

.. B-Lab (w/fee)

..

.. Graded

..

English

..

X D-Seminar

..

.. Variable Title

..

.. Composition

..

E-Independent

..

.. Creative Inquiry

..

Oral

..

.. Study

..

.. Repeatable

..

.. Communication

..

.. F-Tutorial (w/fee)

..

maximum credits

.. Mathematics

..

.. G-Studio

..

from:

Natural Science

..

.. H-Field course

..

to:

.. w/Lab

..

.. I-Study Abroad

..

..

Natural Science

..

.. L-Lab (no/fee)

..

..

.. w/Lab

..

N/B-Lecture

..

..

.. Math or Science

..

.. /Lab(w/fee)

..

..

.. A&H (Literature)

..

N/L-Lecture/Lab(no

..

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A&H

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.. fee)

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.. (Non-Literature)

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.. Social Science

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.. CCA

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.. STS

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.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq: MSE 4320.

to: Preq: Senior Standing.

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 6/3/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 6/3/2014

Form Number: 7440

**Approval**

Chair, Department Curriculum Committee	Date	<i>Charles W. Anderson</i>	10/3/2014
<i>PIB2</i>	8/27	Chair, Undergraduate Curriculum Committee	Date
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert R. Jones</i>	9/8/14	<i>Robert R. Jones</i>	11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
<i>227</i>	7/19/14		
College Dean	Date	President	Date
<i>glr Gary</i>	9/23/14		

X Change a Course - Abbrev & Number: MSE- 4900

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: MSE--6900

.. Add Graduate course: --

Course Title: Sel Topics in Ms&E

## Brief Statement of Change:

Remove prerequisite of "Consent of Instructor"

Last Term taught: 201401 .. Change Abbrev to:

Effective Term: 08/2014 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Sel Topics in Ms&E

to:

.. From: Fixed Credit: (,) To: Fixed Credit: (,)

Change of Credit Variable Credit: 1-6 (-), (-) Variable Credit: - (-), (-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction .. Change Course Modifier .. Change General Education Designation

from:	to:	from:	to:	from:	to:
X A-Lecture Only	.. .. Pass/Fail Only	..	..	.. Creative Inquiry	..
.. B-Lab (w/fee)	.. X Graded	..	..	.. English Composition	..
.. D-Seminar	.. .. Variable Title	..	..	.. Oral Communication	..
.. E-Independent Study	.. .. Creative Inquiry	..	..	.. Mathematics	..
.. F-Tutorial (w/fee)	.. X Repeatable	..	..	.. Natural Science	..
.. G-Studio	.. maximum credits	..	..	.. w/Lab	..
.. H-Field course	.. from:	..	..	.. Natural Science	..
.. I-Study Abroad	.. to:	..	..	.. w/Lab	..
.. L-Lab (no/fee)	..	..	..	.. Math or Science	..
N/B-	..	..	..	.. A&H (Literature)	..
.. Lecture/Lab(w/fee)	..	..	..	.. A&H (Non-Literature)	..
N/L-Lecture/Lab(no	..	..	..	.. Social Science	..
.. fee)	..	..	..	.. CCA	..
		..	..	.. STS	..

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Preq: Consent of Instructor

to: none

Learning Objectives:

Topical Outline:



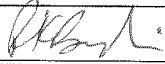
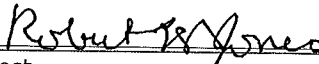
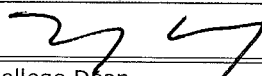
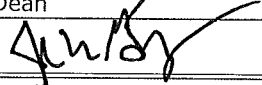
Evaluation:

Form Originator: LGARY, Lickfield, Gary C Date Form Created: 6/25/2014

Form Last Updated by: LGARY, Lickfield, Gary C Date Form Last Updated: 6/25/2014

Form Number: 7455

Approval

			10/3/2014
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	8/27		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	9/8/14		11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
	7/19/14		
College Dean	Date	President	Date
	9/23/14		
Director, Calhoun Honors College	Date		

X Change a Course - Abbrev & Number: PHYS- 2000

Corresponding Lab Course: PHYS--2001

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: Introductory Physics

000182

**Brief Statement of Change:**

Clarification about which department could approve substitution; Physics department will not approve, but student's degree granting program

Last Term taught: 201401 .. Change Abbrev to:

Effective Term: 01/2015 .. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: Introductory Physics

to:

.. From: Fixed Credit: 4 (3,2) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method  
of Instruction

.. Change Course Modifier

.. Change General Education Designation

from:	to:	from:	to:	from:	to:
.. A-Lecture Only	.. .. Pass/Fail Only	..	..	.. Creative Inquiry	..
.. B-Lab (w/fee)	.. X Graded	..	..	.. English Composition	..
.. D-Seminar	.. .. Variable Title	..	..	.. Oral Communication	..
.. E-Independent Study	.. .. Creative Inquiry	..	..	.. Mathematics	..
.. F-Tutorial (w/fee)	.. .. Repeatable	..	..	.. Natural Science w/Lab	..
.. G-Studio	.. maximum credits	..	..	.. Natural Science w/Lab	..
.. H-Field course	.. from:	..	..	.. Math or Science	..
.. I-Study Abroad	.. to:	..	..	.. A&H (Literature)	..
.. L-Lab (no/fee)	..	..	..	.. A&H (Non-Literature)	..
X N/B-Lecture/Lab(w/fee)	..	..	..	.. Social Science	..
.. N/L-Lecture/Lab(no fee)	..	..	..	.. CCA	..
		..	..	.. STS	..

**X Change Catalog Description:**

from: May not be substituted for PHYS 1220, but may be substituted for PHYS 2070, only with the approval of the Department of Physics and Astronomy.

to: May not be substituted for PHYS 1220, but may be substituted for PHYS 2070 with <sup>program</sup> departmental approval. *of the*

**.. Change Prerequisite(s):**

from:

to:

*Student's major department,*

**Learning Objectives:** no change

**Topical Outline:** no change



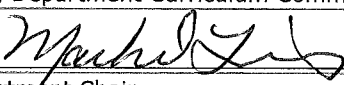
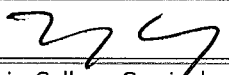

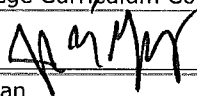
**Evaluation:** no change

**Form Originator:** GLEHMAC, Lehmacher, Gerald A **Date Form Created:** 9/8/2014

**Form Last Updated by:** GLEHMAC, Lehmacher, Gerald A **Date Form Last Updated:** 9/9/2014

**Form Number:** 7559

**Approval**

	9/9/14		10/3/2014
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	9 Sep 2014		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	9/19/14		11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
	9/2/14		
College Dean	Date	President	Date



**X Change a Course - Abbrev & Number: PHYS- 4650**

Corresponding Lab Course: --

Corresponding Honors course: PHYS--4650

.. **Add Honors course:** --

Corresponding Graduate course: PHYS--6650

.. **Add Graduate course:** --

**Course Title: Thermo and Stat Mech**

**Brief Statement of Change:**

Clearer definition of prerequisites

Last Term taught: 201401 .. **Change Abbrev to:**

Effective Term: 01/2015 .. **Change Number to:**

.. **Change Catalog Title:** .. **Change Transcript Title:**

from: from: Thermo and Stat Mech

to:

.. From: Fixed Credit: 3 (3,0) To: Fixed Credit: (,)

**Change of Credit** Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. **Add cross-listing with the following child course(s):**

.. **Delete cross-listing with the following child course(s):**

.. **Reverse Parent/Child relationship with:**

.. **Change Method of Instruction** .. **Change Course Modifier** .. **Change General Education Designation**

from:	to:	from:	to:	from:	to:
X A-Lecture Only	.. .. Pass/Fail Only	..	.. Creative Inquiry	..	
.. B-Lab (w/fee)	.. X Graded	..	.. English Composition	..	
.. D-Seminar	.. .. Variable Title	..	.. Oral Communication	..	
.. E-Independent Study	.. .. Creative Inquiry	..	.. Mathematics	..	
.. F-Tutorial (w/fee)	.. .. Repeatable	..	.. Natural Science w/Lab	..	
.. G-Studio	.. maximum credits	..	.. Natural Science w/Lab	..	
.. H-Field course	from:	..	.. Math or Science	..	
.. I-Study Abroad	to:	..	.. A&H (Literature)	..	
.. L-Lab (no/fee)	..	..	.. A&H (Non-Literature)	..	
.. N/B-Lecture/Lab(w/fee)	..	..	.. Social Science	..	
.. N/L-Lecture/Lab(no fee)	..	..	.. CCA	..	
		..	.. STS	..	

.. **Change Catalog Description:**

from:

to:

**X Change Prerequisite(s):**

from: Preq: six hours of physics beyond PHYS 2220.

to: Preq: PHYS 3210.

**Learning Objectives:**

**Topical Outline:**


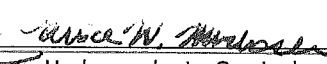

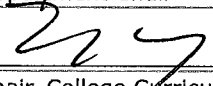
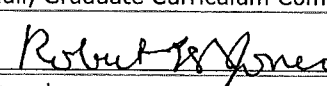
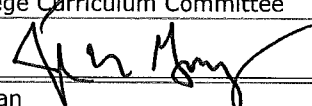
**Evaluation:**

**Form Originator:** GLEHMAC, Lehman, Gerald A **Date Form Created:** 9/8/2014

**Form Last Updated by:** GLEHMAC, Lehman, Gerald A **Date Form Last Updated:** 9/9/2014

**Form Number:** 7560

**Approval**

	9/9/14		10/3/2014
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	9/9/2014		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	9/19/14		11/5/2014
Chair, College Curriculum Committee	Date	Provost	Date
	9/12/14		
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		