



## **Campus Curricula Committee Meeting Agenda**

**April 6, 2015**

**2:30-4:00 p.m., Room 110H Bertelsmeyer Hall**

### **Review of submitted Degree Change forms:**

File #16.12     Chemistry: Chemistry BS  
File #153.26   Computer Engineering: Computer Engineering BS  
File #64.16     Geology & Geophysics: Geology and Geophysics BS

### **Review of submitted Course Change forms:**

File #1272.5   Business 4675: International Business  
File #507.4     Business 5360: Business Operations  
File #1682.4   Chemistry 2229: Organic Chemistry II Lab  
File #1825.1   Chemistry 2310: Inorganic Chemistry I  
File #4173     Chemistry 2320: Inorganic Chemistry II  
File #1040.1   Chemical Engineering 2100: Chemical Engineering Material & Energy Balances  
File #2041.1   Chemical Engineering 2110: Thermodynamics I  
File #466.1     Chemical Engineering 2300: Chemical Process Materials  
File #1801.1   Chemical Engineering 3100: Chemical Engineering Fluid Flow  
File #2306.1   Chemical Engineering 3110: Chemical Engineering Heat Transfer  
File #436.1     Chemical Engineering 3120: Chemical Engineering Thermodynamics  
File #1526.1   Chemical Engineering 3140: Continuous Mass Transfer  
File #1606.1   Chemical Engineering 3200: Biochemical Separations  
File #862.1     Chemical Engineering 4097: Chemical Process Design  
File #1607.1   Chemical Engineering 4210: Biochemical Reactors  
File #1880.1   Computer Engineering 6320: Adaptive Dynamic Programming  
File #2451.1   Computer Engineering 6510: Resilient Networks  
File #4176     Electrical Engineering 6350: Neural Network Control of Nonlinear Continuous-time Systems  
File #416.1     Engineering Management 5515: Integrated Product and Process Design  
File #1798.1   Enterprise Resource Planning 5110: Enterprise Resource Planning Systems Design and Implementation  
  
File #701.1     Geology 4831: Computational Geology  
File #263.1     Geology 5311: Depositional Systems  
File #1552.1   Geology 5513: Petroleum Geology  
File #1317.1   Geology 5621: Advanced Stratigraphy and Basin Evolution  
File #2027.1   Geology 5741: Micropaleontology  
File #1836.1   Geophysics 5231: Seismic Data Processing  
File #1790.1   Geophysics 5782: Environmental and Engineering Geophysics



File #920.6	Information Science & Technology 4654: Web and Digital Media Development
File #497.1	Marketing 5310: Digital Marketing and Promotions
File #2185.1	Petroleum Engineering 6231: Drilling Optimization
File #4175	Petroleum Engineering 6431: Advanced Well Completion Design
File #15.1	Petroleum Engineering 6521: Advanced Well Test Analysis
File #4195	Philosophy 1130: Introduction to Ethics
File #4196	Philosophy 3302: Medieval Philosophy

**Review of submitted Experimental Course forms:**

File #4184	Aerospace Engineering 6001.TBD: Adaptive Control of Mechanical and Aerospace Systems
File #4159	Aerospace Engineering 6001.TBD: Methods in Orbit Determination
File #4193	Electrical Engineering 6001.TBD: Advanced Signal and Power Integrity
File #4167	Geology 5001.TBD: Lidar Principles and Application
File #4183	Mechanical Engineering 6001.TBD: Adaptive Control of Mechanical and Aerospace Systems

**CC Form Discussion**

**Tabled Course Change forms:**

File #745.1	Geophysics 3210: Introduction to Geophysics
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## Program Change Request

Date Submitted: 02/10/15 6:25 pm

Viewing: **CHEM-BS : Chemistry BS**

File: 16.12

Last approved: 04/28/14 10:21 am

Last edit: 03/05/15 3:28 pm

Changes proposed by: woelkk

Catalog Pages  
Using this  
Program

[Chemistry](#)

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

Program Code CHEM-BS

Department Chemistry

Title Chemistry BS

## Program Requirements and Description

### Bachelor of Science Chemistry

A minimum of **129** of ~~131~~ credit hours is required for a Bachelor of Science degree in Chemistry and an average of at least two grade points per credit hour must be obtained. These requirements for the B.S. degree are in addition to credit received for algebra, trigonometry, and basic ROTC.

The Chemistry science curriculum requires **nine** ~~twelve~~ semester hours in **humanities** ~~humanities, exclusive of foreign language,~~ and must include [ENGLISH 1160](#) or [ENGLISH 3560](#) . A minimum of nine semester hours is required in social sciences, including either [HISTORY 1300](#) , [HISTORY 1310](#) , [HISTORY 1200](#) , or [POL SCI 1200](#) . Specific requirements for the bachelor degree are outlined in the sample program listed below.

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM 1310</a>	4	<a href="#">CHEM 1320</a>	3
<a href="#">CHEM 1319</a>	1	<a href="#">CHEM 1510</a>	2
<a href="#">CHEM 1100</a>	1	<a href="#">MATH 1221</a>	5
<a href="#">CHEM 1110</a>	1	Electives	6
<a href="#">MATH 1208</a>	5		
<a href="#">ENGLISH 1120</a>	3		
<a href="#">HISTORY 1200</a> , or <a href="#">1300</a> , or <a href="#">1310</a> , or <a href="#">POL SCI 1200</a>	3		
	18		16
Sophomore Year			
First Semester	Credits	Second Semester	Credits

### In Workflow

1. [RCHEMIST Chair](#)
2. [CCC Secretary](#)
3. [Sciences DSCC Chair](#)
4. [Pending CCC Agenda post](#)
5. [CCC Meeting Agenda](#)
6. [Campus Curricula Committee Chair](#)
7. [FS Meeting Agenda](#)
8. [Faculty Senate Chair](#)
9. [Registrar](#)
10. [kristyg](#)

### Approval Path

1. 02/11/15 10:10 am  
woelkk: Approved for RCHEMIST Chair
2. 02/11/15 10:51 am  
kleb6b: Approved for CCC Secretary
3. 03/05/15 3:29 pm  
imorgan: Approved for Sciences DSCC Chair
4. 03/05/15 3:42 pm  
kleb6b: Approved for Pending CCC Agenda post

### History

1. Apr 28, 2014 by  
[tschuman](#)

<a href="#">CHEM 2210</a>	4	<a href="#">CHEM 2220</a>	4
<a href="#">CHEM 2219</a>	1	<a href="#">CHEM 2229</a>	1
<a href="#">MATH 2222</a>	4	<del>PHYSICS 2111</del>	<del>4</del>
<del>PHYSICS 1111</del>	<del>4</del>	<del>PHYSICS 2119</del>	<del>1</del>
<del>PHYSICS 1119</del>	<del>1</del>	<a href="#">CHEM 3410</a>	<a href="#">3</a>
Electives	3	<a href="#">PHYSICS 2135 or 2111 and 2119</a>	<a href="#">4</a>
<a href="#">PHYSICS 1135 or 1111 and 1119</a>	<a href="#">4</a>	Select one of the following sequences:	<a href="#">3</a>
		<a href="#">COMP SCI 1971</a> & <a href="#">COMP SCI 1981</a>	
		<del>STAT 3113</del>	<del>3</del>
		<a href="#">COMP SCI 1972</a> & <a href="#">COMP SCI 1982</a>	
		<a href="#">COMP SCI 1570</a> & <a href="#">COMP SCI 1580</a>	
	16		15
<b>Junior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<del>CHEM 3420</del>	<del>3</del>	<del>CHEM 2510</del>	<del>4</del>
<a href="#">CHEM 2310</a>	<a href="#">3</a>	<del>CHEM 2310</del>	<del>3</del>
<a href="#">CHEM 2510</a>	<a href="#">4</a>	<a href="#">CHEM 2319</a>	<a href="#">1</a>
<a href="#">CHEM 3430</a>	<a href="#">3</a>	<del>CHEM 3410</del>	<del>3</del>
<a href="#">STAT 3113 or 3115</a>	<a href="#">3</a>	<del>CHEM 3419</del>	<del>4</del>
<a href="#">ENGLISH 1160 or 3560</a>	<a href="#">3</a>	<del>CHEM 4297</del>	<del>3</del>
<del>CHEM 4610</del>	<del>3</del>	<a href="#">CHEM 2320</a>	<a href="#">3</a>
Electives	6	<a href="#">CHEM 3420</a>	<a href="#">3</a>
		<a href="#">CHEM 3459</a>	<a href="#">2</a>
		Electives	<a href="#">6</a>
	16		15
<b>Senior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<del>CHEM 3430</del>	<del>3</del>	<a href="#">CHEM 4010 or 4099</a>	<a href="#">1</a>
<del>CHEM 3439</del>	<del>1</del>	<del>Chemistry Electives</del>	<del>7</del>
<a href="#">CHEM 3510</a>	<a href="#">4</a>	<a href="#">CHEM 4297</a>	<a href="#">3</a>
<a href="#">CHEM 4010 or 4099</a>	<a href="#">1</a>	Electives	<a href="#">12</a>
<a href="#">CHEM 4610</a>	<a href="#">3</a>		
<a href="#">CHEM 4810</a>	<a href="#">3</a>		
Electives	6		
<del>Electives</del>	<del>2</del>		
	17		16
Total Credits: 129			

**Notes:**

**Grade Requirements:** ~~Students must complete a minimum of 131 credit hours for a Bachelor of Science in Chemistry degree. A~~ A minimum grade of "C" is required for each chemistry course counted towards the degree.

**ROTC:** Basic ROTC may be taken in the freshman and sophomore year, but ~~does is not count~~ **does** is not **count** countable towards ~~the a~~ **the a** degree.

**Chemistry Electives:** **The twelve (12)** ~~Of these thirteen (13)~~ hours of chemistry **electives** ~~electives, three (3)~~ must be **2xxx, chosen from** ~~3xxx, 4xxx (or 5xxx or higher with permission) level~~ **chemistry courses, and ten (10) hours must be 2xxx-level or higher** in chemistry or another technical area with permission of **department**.

department chairperson.

**Electives:** There are ~~twenty-one (21)~~ ~~twenty-six (26)~~ hours of electives. Six (6) elective hours must be completed in the social sciences. ~~Six (6)~~ ~~Nine (9)~~ elective hours are required in the ~~humanities~~. ~~humanities, exclusive of foreign language~~. Three of the humanities hours must be literature.

~~Students planning to attend graduate school are encouraged to incorporate additional higher level chemistry electives, math, and foreign language, including a scientific literature course. Recommended courses include but are not limited to the following: Biology, 2xxx, 3xxx and 4xxx level, especially BIO SCI 2213, or BIO SCI 4323 & BIO SCI 4329 Math 2xxx, 3xxx and 4xxx level, especially MATH 3304, MATH 3108 & MATH 5325 Physics 2xxx, 3xxx and 4xxx level, especially PHYSICS 2401, PHYSICS 3211, PHYSICS 4503, PHYSICS 4523, or PHYSICS 4323 Statistics, 2xxx, 3xxx and 4xxx level, especially STAT 5643, STAT 5346 or STAT 5353 CER ENG 3410 and CER ENG 3417, or GEO 275A foreign language series. Students who plan to teach high school chemistry should consult the Education section of this catalog.~~ **Chemistry**  
**Biochemistry Emphasis Area**

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM 1310</a>	4	<a href="#">CHEM 1320</a>	3
<a href="#">CHEM 1319</a>	1	<a href="#">CHEM 1510</a>	2
<a href="#">CHEM 1100</a>	1	<a href="#">MATH 1221</a>	5
<a href="#">CHEM 1110</a>	1	<a href="#">BIO SCI 2213</a>	3
<a href="#">MATH 1208</a>	5	<a href="#">BIO SCI 2219</a>	1
<a href="#">ENGLISH 1120</a>	3	Electives	3
<a href="#">HISTORY 1200</a> , or <a href="#">1300</a> , or <a href="#">1310</a> , or <a href="#">POL SCI 1200</a>	3		
	18		17
Sophomore Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM 2210</a>	4	<a href="#">CHEM 2220</a>	4
<a href="#">CHEM 2219</a>	1	<a href="#">CHEM 2229</a>	1
<a href="#">MATH 2222</a>	4	<del>PHYSICS 2414</del>	<del>4</del>
<del>PHYSICS 1414</del>	<del>4</del>	<del>PHYSICS 2419</del>	<del>4</del>
<del>PHYSICS 1419</del>	<del>4</del>	<a href="#">CHEM 3410</a>	3
<a href="#">PHYSICS 1135</a> or <a href="#">1111</a> and <a href="#">1119</a>	4	<a href="#">PHYSICS 2135</a> or <a href="#">2111</a> and <a href="#">2119</a>	4
Electives	3	Select one of the following sequences:	3
		<a href="#">COMP SCI 1971</a> & <a href="#">COMP SCI 1981</a>	
		<del>STAT 3413</del>	<del>3</del>
		<a href="#">COMP SCI 1972</a> & <a href="#">COMP SCI 1982</a>	
		<a href="#">COMP SCI 1570</a> & <a href="#">COMP SCI 1580</a>	
	16		15
Junior Year			
First Semester	Credits	Second Semester	Credits
<del>CHEM 3420</del>	<del>3</del>	<a href="#">CHEM 2319</a>	1
<a href="#">CHEM 2310</a>	3	<a href="#">CHEM 2320</a>	3
<a href="#">CHEM 3430</a>	3	<a href="#">CHEM 2510</a>	4
<a href="#">CHEM 4610</a>	3	<del>CHEM 3440</del>	<del>3</del>

CHEM 4619	2	CHEM 3419	4
STAT 3113 or 3115	3	CHEM 3420	3
ENGLISH 1160 or 3560	3	CHEM 3459	2
Social Sciences Elective	3	CHEM 4620	3
Electives	3	Humanities Elective	3
		Electives	2
	17		16
<b>Senior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
CHEM 3439	3	CHEM 2319	3
CHEM 3439	4	CHEM 2319	4
CHEM 3510	4	CHEM 4000	4
CHEM 4010 or 4099	1	CHEM 4010 or 4099	1
CHEM 4810	3	CHEM 4297	3
BIO SCI 4323	3	Social Sciences Elective	3
Elective	3	Elective	3
Electives	6	Electives	9
	17		13
Total Credits: 129			

**Notes:**

**Grade Requirements:** Students must complete a minimum of 131 credit hours for the Bachelor of Science in Chemistry degree. A minimum grade of "C" is required for each chemistry Chemistry course counted towards the degree.

**ROTC:** Basic ROTC may be taken in the freshman and sophomore years, but does is not count countable towards the a degree.

**Electives:** There are twenty-one (21) are eleven (11) hours of electives. Six (6) elective hours must be completed in the social sciences. Six (6) elective hours are required in the humanities. Students planning to attend graduate school are encouraged to incorporate additional higher level chemistry electives, math, and foreign language, including a scientific literature course. Three of the humanities hours must be literature. literature.

**Recommended courses include but are not limited to the following:** Biology, 2xxx, 3xxx and 4xxx especially BIO SCI 5353, BIO SCI 4353, BIO SCI 4383, BIO SCI 3783, & BIO SCI 5533 Math 2xxx, 3xxx and 4xxx level, especially MATH 3304, MATH 3108 and MATH 5325 Physics 2xxx, 3xxx and 4xxx level, especially PHYSICS 2401, PHYSICS 3211, & PHYSICS 4503 Statistics, 2xxx, 3xxx and 4xxx level, especially STAT 5643, STAT 5346 & STAT 5353A foreign language series, French, German or Russian are recommended. Polymer & Coatings Science Emphasis Area

<b>Freshman Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
CHEM 1310	4	CHEM 1320	3
CHEM 1319	1	CHEM 1510	2
CHEM 1100	1	MATH 1221	5
CHEM 1110	1	Electives	6
MATH 1208	5		
ENGLISH 1120	3		
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
	18		16
<b>Sophomore Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>

<a href="#">CHEM 2210</a>	4	<a href="#">CHEM 2220</a>	4
<a href="#">CHEM 2219</a>	1	<a href="#">CHEM 2229</a>	1
<a href="#">MATH 2222</a>	4	<del>PHYSICS 2111</del>	<del>4</del>
<del>PHYSICS 1111</del>	<del>4</del>	<del>PHYSICS 2119</del>	<del>1</del>
<del>PHYSICS 1119</del>	<del>1</del>	<a href="#">CHEM 3410</a>	3
<a href="#">PHYSICS 1135 or 1111 and 1119</a>	4	<a href="#">PHYSICS 2135 or 2111 and 2119</a>	4
Electives	3	Select one of the following sequences:	3
		<a href="#">COMP SCI 1971</a> & <a href="#">COMP SCI 1981</a>	
		<del>STAT 3113</del>	<del>3</del>
		<a href="#">COMP SCI 1972</a> & <a href="#">COMP SCI 1982</a>	
		<a href="#">COMP SCI 1570</a> & <a href="#">COMP SCI 1580</a>	
	16		15
<b>Junior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<del>CHEM 3420</del>	<del>3</del>	<del>CHEM 2510</del>	<del>4</del>
<a href="#">CHEM 2510</a>	4	<del>CHEM 3410</del>	<del>3</del>
<a href="#">CHEM 3430</a>	3	<del>CHEM 3419</del>	<del>1</del>
<a href="#">CHEM 4810</a>	3	<a href="#">CHEM 3420</a>	3
<del>CHEM 4610</del>	<del>3</del>	<a href="#">CHEM 3459</a>	2
<a href="#">STAT 3113 or 3115</a>	3	<a href="#">CHEM 4099</a>	3
<a href="#">ENGLISH 1160 or 3560</a>	3	<a href="#">CHEM 4819</a>	3
<del>Electives</del>	<del>4</del>	<a href="#">CHEM 4850</a>	3
	16		14
<b>Senior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
<del>CHEM 3430</del>	<del>3</del>	<del>CHEM 2310</del>	<del>3</del>
<del>CHEM 3439</del>	<del>1</del>	<a href="#">CHEM 2319</a>	1
<a href="#">CHEM 2310</a>	3	<a href="#">CHEM 2320</a>	3
<a href="#">CHEM 3510</a>	4	<a href="#">CHEM 4297</a>	3
<del>CHEM-ENG 5310</del>	<del>3</del>	<del>Chemistry Electives</del>	<del>3</del>
<a href="#">CHEM 4610</a>	3	Electives	9
<a href="#">PHYSICS 4523</a>	3		
Electives	5		
	18		16
Total Credits: 129			

**Notes:**

**Grade Requirements:** ~~Students must complete a minimum of 131 credit hours for a Bachelor of Science-Chemistry degree.~~ A minimum grade of "C" is required for each **chemistry** ~~Chemistry~~ course counted towards the degree.

**ROTC:** Basic ROTC may be taken in the freshman and sophomore years, **but does** ~~but is not~~ **count towards the** ~~countable towards a~~ degree.

**Undergraduate Research:** ~~CHEM 4099 Undergraduate Research:~~ The undergraduate research **CHEM 4099** must be done in Polymers and Coatings Science.

**Chemistry Electives:** The three (3) hours of chemistry electives must be 2xxx, 3xxx, 4xxx (or 5xxx or higher with permission) level in chemistry or another technical area with permission of department.

**Electives:** There are **twenty (20)** ~~twenty-six (26)~~ hours of electives. ~~Six (6) elective hours must be completed in the social sciences.~~ **Six (6)** ~~Nine (9)~~ elective hours **must be completed** ~~are required~~ in the **social sciences**. ~~humanities, exclusive of foreign language.~~ **Six (6) elective hours are required in the humanities.** Three of the humanities hours must be literature.

**Three (3) hours of elective may be chosen from Materials Science related courses numbered in the 3xxx- or 4xxx-series. Students planning to attend graduate school are encouraged to incorporate additional higher level chemistry electives, math, and foreign language, including a scientific literature course. Recommended courses include but are not limited to the following: Biology, 2xxx, 3xxx and 4xxx level, especially BIO SCI 2213, or BIO SCI 4323 & BIO SCI 4329CH ENG 381Math 2xxx, 3xxx and 4xxx level, especially MATH 3304, MATH 3108 & MATH 5325Physics 2xxx, 3xxx and 4xxx level, especially PHYSICS 2401, PHYSICS 3211, PHYSICS 4503, PHYSICS 4523, or PHYSICS 4323Statistics, 2xxx, 3xxx and 4xxx level, especially STAT 5643, STAT 5346 or STAT 5353CER ENG 3410 and CER ENG 3417, or GEO 275A foreign language series. Pre-medicine Emphasis Area**

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM 1310</a>	4	<a href="#">CHEM 1320</a>	3
<a href="#">CHEM 1319</a>	1	<a href="#">CHEM 1510</a>	2
<a href="#">CHEM 1100</a>	1	<a href="#">MATH 1221</a>	5
<a href="#">CHEM 1110</a>	1	<a href="#">BIO SCI 1113</a>	3
<a href="#">MATH 1208</a>	5	<a href="#">BIO SCI 1219</a>	2
<a href="#">HISTORY 1200</a> , or <a href="#">1300</a> , or <a href="#">1310</a> , or <a href="#">POL SCI 1200</a>	3	<a href="#">ENGLISH 1120</a>	3
	15		18
Sophomore Year			
First Semester	Credits	Second Semester	Credits
<a href="#">CHEM 2210</a>	4	<a href="#">CHEM 2220</a>	4
<a href="#">CHEM 2219</a>	1	<a href="#">CHEM 2229</a>	1
<a href="#">MATH 2222</a>	4	<del>PHYSICS 2414</del>	<del>4</del>
<del>PHYSICS 1414</del>	<del>4</del>	<del>PHYSICS 2419</del>	<del>4</del>
<del>PHYSICS 1419</del>	<del>4</del>	<a href="#">CHEM 3410</a>	3
<a href="#">PHYSICS 1135 or 1111 and 1119</a>	4	<a href="#">PHYSICS 2135 or 2111 and 2119</a>	4
<a href="#">BIO SCI 2213</a>	3	Select one of the following sequences:	3
<a href="#">BIO SCI 2219</a>	1	<a href="#">COMP SCI 1971</a> & <a href="#">COMP SCI 1981</a>	
		<del>STAT 3113</del>	<del>3</del>
		<a href="#">COMP SCI 1972</a> & <a href="#">COMP SCI 1982</a>	
		<a href="#">COMP SCI 1570</a> & <a href="#">COMP SCI 1580</a>	
	17		15
Junior Year			
First Semester	Credits	Second Semester	Credits
<del>CHEM 3420</del>	<del>3</del>	<a href="#">CHEM 2510</a>	4
<a href="#">CHEM 3430</a>	3	<del>CHEM 3440</del>	<del>3</del>
<a href="#">CHEM 4610</a>	3	<del>CHEM 3449</del>	<del>4</del>
<a href="#">CHEM 4619</a>	2	<a href="#">CHEM 3420</a>	3
<a href="#">CHEM 4010 or 4099</a>	1	<a href="#">CHEM 4620</a>	3
<a href="#">BIO SCI 3333</a>	3	<a href="#">BIO SCI 242</a>	3
<a href="#">BIO SCI 3339</a>	1	Humanities Elective	3



ENGLISH 1160 or 3560	3	STAT 3113 or 3115	3
BIO SCI 241	5	BIO SCI 3343	3
		BIO SCI 3349	1
	16		17
<b>Senior Year</b>			
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>
CHEM 3430	3	CHEM 2310	3
CHEM 3439	4	CHEM 2319	1
CHEM 2310	3	CHEM 2320	3
CHEM 3510	4	CHEM 4297	3
CHEM 3459	2	Advanced Chemistry Electives	4
CHEM 4010 or 4099	1	Social Sciences Elective	3
CHEM 4810	3	Humanities Elective	3
Electives	3	Electives	8
Literature Elective	3		
	16		15
Total Credits: 129			

**Notes:**

**Grade Requirements:** ~~Students must complete a minimum of 133 credit hours for the Bachelor of Science in Chemistry degree.~~ A minimum grade of "C" is required for each ~~chemistry~~ ~~Chemistry~~ course counted towards the degree.

**ROTC:** Basic ROTC may be taken in the freshman and sophomore years, ~~but does~~ ~~but is not~~ ~~count towards the~~ ~~countable towards a~~ degree.

**Electives:** There are eleven (11) hours of electives. Three (3) elective hours must be completed in the social sciences. Three (3) elective hours are required in the humanities, which must be literature.

~~Chemistry Electives: The advanced Chemistry Elective is chosen from CHEM 4210, CHEM 4310, CHEM 4410, CHEM 4810, CHEM 4850.~~

Justification for request (a) Streamlining physical chemistry education (Chem 3410, 3420, 3430, and 3459) in all Chemistry BS degree programs; (b) Adjusting biological science courses (Anatomy and Physiology lecture and labs) for pre-med emphasis students; (c) Changing total number of credit hours for pre-med emphasis students to be consistent with other chemistry BS degree programs; (d) changing total degree hours from 131 to 129 to accommodate for reduced physics hours, i.e., physics department is no longer offering General Physics I and II (5 hours each), must be substituted by Engineering Physics I and II (4 hours each).

Supporting Documents

Course Reviewer Comments **woelkk (08/19/14 6:35 pm):** General Electives must not be as specified  
**woelkk (08/19/14 6:37 pm):** General electives must not be as specified  
**kleb6b (08/20/14 10:03 am):** Change start term  
**imorgan (10/13/14 11:12 am):** Rollback: Suggested edits from Sciences DSCC  
**kleb6b (02/13/15 9:32 am):** Update Sophomore Year, Second Semester  
**kleb6b (02/17/15 9:00 am):** Update sophomore year, second semester plan of study  
**imorgan (03/05/15 3:28 pm):** Made a correction to the Polymer and Coatings Science Emphasis based on discussion with K. Woelk. D. Tauritz is concerned about the ambiguity of changing "department chairperson" to "department" (will the students

know whom to see?).

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Key: 16

## Program Change Request

Date Submitted: 02/06/15 8:39 am

Viewing: **CP ENG-BS : Computer Engineering BS**

File: 153.26

Last approved: 08/13/14 4:16 pm

Last edit: 02/10/15 1:08 pm

Changes proposed by: kleb6b

Catalog Pages Using this Program	<a href="#">Computer Engineering</a>
Start Term	Fall <b>2015</b> <del>2014</del>
Program Code	CP ENG-BS
Department	Electrical and Computer Engineering
Title	Computer Engineering BS

## Program Requirements and Description

### Bachelor of Science Computer Engineering<sup>1</sup>

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

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

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

1. All students are required to take one American history course, one economics course, one humanities course, and . The history course is to be selected from [HISTORY 1200](#), [HISTORY 1300](#), [HISTORY 1310](#), or [POL SCI 1200](#). ~~POL SCI 4200~~. The economics course may be either [ECON 1100](#) ~~ECON 4400~~ or [ECON 1200](#). The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.
2. Depth requirement. Three credit hours must be taken in humanities or social sciences at the 2000 level or above and must be selected from the approved list. This course must have as a prerequisite one of the humanities or social sciences courses already taken. Foreign language courses numbered 1180 will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000 level. All courses taken to satisfy the depth requirement must be taken after graduating from high school.
3. The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to [ENGLISH 1120](#).
4. Any specific departmental requirements in the general studies area must be satisfied.
5. Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

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

### In Workflow

1. stanleyj
2. RELECENG Chair
3. CCC Secretary
4. Engineering DSCC Chair
5. Pending CCC Agenda post
6. CCC Meeting Agenda
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. kristyg

### Approval Path

1. 02/06/15 3:27 pm  
stanleyj: Approved for stanleyj
2. 02/06/15 4:47 pm  
daryl: Approved for RELECENG Chair
3. 02/09/15 9:24 am  
kleb6b: Approved for CCC Secretary
4. 02/17/15 10:07 am  
srafer: Approved for Engineering DSCC Chair
5. 03/05/15 3:43 pm  
kleb6b: Approved for Pending CCC Agenda post

### History

1. Aug 6, 2014 by stanleyj
2. Aug 13, 2014 by pantaleoa

instruction.

## Free Electives Footnote:

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

Freshman Year			
First Semester	Credits	Second Semester	Credits
<a href="#">FR ENG 1100</a> <sup>2</sup>	1	<a href="#">MECH ENG 1720</a>	3
<a href="#">MATH 1214</a> <sup>3</sup>	4	<a href="#">MATH 1215</a> <sup>3</sup>	4
<a href="#">CHEM 1310</a>	4	<a href="#">PHYSICS 1135</a> <sup>3,4</sup>	4
<a href="#">CHEM 1319</a>	1	<a href="#">ECON 1100</a> or <a href="#">1200</a>	3
<a href="#">HISTORY 1200</a> , or <a href="#">1300</a> , or <a href="#">1310</a> , or <a href="#">POL SCI 1200</a>	3	Elective-Hum or Soc (any level) <sup>5</sup>	3
<a href="#">ENGLISH 1120</a>	3		
	16		17
Sophomore Year			
First Semester	Credits	Second Semester	Credits
<a href="#">ELEC ENG 2100</a> <sup>3,6,7</sup>	3	<a href="#">COMP ENG 2210</a> <sup>3,6,8</sup>	3
<a href="#">ELEC ENG 2101</a> <sup>3,6</sup>	1	<a href="#">COMP ENG 2211</a> <sup>3,6</sup>	1
<a href="#">MATH 2222</a> <sup>3</sup>	4	<a href="#">ELEC ENG 2120</a> <sup>3,7,9</sup>	3
<a href="#">COMP SCI 1570</a> <sup>3</sup>	3	<a href="#">MATH 3304</a> <sup>3</sup>	3
<a href="#">COMP SCI 1580</a> <sup>3</sup>	1	<a href="#">COMP SCI 1510</a> <sup>3</sup>	3
<a href="#">PHYSICS 2135</a> <sup>3,4</sup>	4	<a href="#">COMP SCI 1200</a> <sup>3</sup>	3
	16		16
Junior Year			
First Semester	Credits	Second Semester	Credits
<a href="#">COMP ENG 3110</a>	3	COMP ENG Elective A <sup>3,14</sup>	3
<a href="#">COMP ENG 3150</a>	3	<a href="#">ELEC ENG 3410</a> <sup>3,6,9</sup>	3
<a href="#">COMP ENG 3551</a> <sup>3,6,8</sup>	1	<a href="#">COMP SCI 3800</a> <sup>3</sup>	3
<a href="#">ELEC ENG 2200</a> <sup>3,6,7</sup>	3	<a href="#">STAT 3117</a> <sup>12</sup>	3
<a href="#">ELEC ENG 2201</a> <sup>3,6,7</sup>	1	<del>ENGLISH 3560</del> <sup>13</sup>	<del>3</del>
Mathematics Elective <sup>10</sup>	3	<b>Communication Elective 3 hrs</b> <sup>13</sup>	
<del>SP&amp;M S 1185</del>	<del>3</del>		
<a href="#">SP&amp;M S 1185</a>	3		
	17		12
Senior Year			
First Semester	Credits	Second Semester	Credits
<a href="#">COMP ENG 5410</a> or <a href="#">COMP SCI 5600</a> <sup>3</sup>	3	COMP ENG Elective D <sup>3,15,16</sup>	3
COMP ENG Elective C <sup>3,15,16</sup>	3	COMP ENG Elective E <sup>3,15,16</sup>	3
<a href="#">COMP ENG 4096</a> <sup>3,17</sup>	1	<a href="#">COMP ENG 4097</a> <sup>3,17</sup>	3
Elective-Hum or Soc (any level) <sup>5</sup>	3	Elective-Hum or Soc (upper level) <sup>5</sup>	3
Engineering Science Elective <sup>11</sup>	3	Free Elective <sup>18</sup>	3
COMP ENG Elective B <sup>3,19</sup>	3		
	16		15
Total Credits: 125			

**Notes:** Student must satisfy the common engineering freshman year requirements and be admitted into the department.

1	The minimum number of hours required for a degree in Computer Engineering is 128.
2	Students that transfer to Missouri S&T after their freshman year are not required to enroll in Freshman Engineering Seminars.
3	A minimum grade of "C" must be attained in <a href="#">MATH 1214</a> , <a href="#">MATH 1215</a> , <a href="#">MATH 2222</a> , and <a href="#">MATH 3304</a> , <a href="#">PHYSICS 1135</a> and <a href="#">PHYSICS 2135</a> (or their equivalents), <a href="#">COMP SCI 1570</a> , <a href="#">COMP SCI 1580</a> , <a href="#">COMP SCI 1510</a> , <a href="#">COMP SCI 1200</a> , <a href="#">COMP SCI 3800</a> , <a href="#">COMP ENG 2210</a> , <a href="#">COMP ENG 2211</a> , <a href="#">COMP ENG 3150</a> , <a href="#">COMP ENG 3551</a> , <a href="#">COMP ENG 3110</a> , <a href="#">COMP ENG 5410</a> or <a href="#">COMP SCI 5600</a> , <a href="#">COMP ENG 4096</a> , and <a href="#">ELEC ENG 2100</a> , <a href="#">ELEC ENG 2101</a> , <a href="#">ELEC ENG 2120</a> , <a href="#">ELEC ENG 2200</a> , <a href="#">ELEC ENG 2201</a> , <a href="#">ELEC ENG 3410</a> , and <a href="#">ELEC ENG 3411</a> , and the COMP ENG electives A, B, C, D and E. Also, students may not enroll in other courses that use these courses as prerequisites until the minimum grade of "C" is attained.
4	Students may take <a href="#">PHYSICS 1111</a> and <a href="#">PHYSICS 1119</a> in place of <a href="#">PHYSICS 1135</a> . Students may take <a href="#">PHYSICS 2111</a> and <a href="#">PHYSICS 2119</a> in place of <a href="#">PHYSICS 2135</a> .
5	All electives must be approved by the student's advisor. Students must comply with the general education requirements with respect to selection and depth of study. These requirements are specified in the current catalog.
6	Students who drop a lecture course prior to the deadline to drop a class must also drop the corequisite lab course.
7	Students must earn a passing grade on the ELEC ENG Advancement Exam I (associated with <a href="#">ELEC ENG 2100</a> ) before they enroll in <a href="#">ELEC ENG 2120</a> or <a href="#">ELEC ENG 2200</a> and <a href="#">ELEC ENG 2201</a> .
8	Students must earn a passing grade on the COMP ENG Advancement Exam (associated with <a href="#">COMP ENG 2210</a> ) before they enroll in any course with <a href="#">COMP ENG 2210</a> and <a href="#">COMP ENG 2211</a> as prerequisites.
9	Students must earn a passing grade on the ELEC ENG Advancement Exam II (associated with <a href="#">ELEC ENG 2120</a> ) before they enroll in <a href="#">ELEC ENG 3410</a> and <a href="#">ELEC ENG 3411</a> .
10	Students must take one of the following courses: <a href="#">MATH 3103</a> , <a href="#">MATH 3108</a> , <a href="#">MATH 3109</a> , <a href="#">MATH 5302</a> , <a href="#">MATH 5603</a> , <a href="#">MATH 5105</a> , <a href="#">MATH 5106</a> , <a href="#">MATH 5107</a> , <a href="#">MATH 5108</a> , <a href="#">MATH 4209</a> , <a href="#">MATH 4211</a> , <a href="#">MATH 5215</a> , <a href="#">MATH 5222</a> , <a href="#">MATH 5325</a> , <a href="#">MATH 4530</a> , <a href="#">MATH 5737</a> , <a href="#">MATH 5351</a> , <a href="#">MATH 5154</a> , <a href="#">MATH 4096</a> , <a href="#">MATH 5483</a> , <a href="#">MATH 5585</a> , <a href="#">STAT 5644</a> , <a href="#">STAT 5346</a> , <a href="#">STAT 5353</a> .
11	Students must take <a href="#">MECH ENG 2340</a> , <a href="#">MECH ENG 2519</a> , <a href="#">MECH ENG 2527</a> , <a href="#">PHYSICS 2311</a> , <a href="#">PHYSICS 2401</a> , <a href="#">CHEM 2210</a> , <a href="#">BIO SCI 2213</a> , or <a href="#">BIO SCI 2223</a> . The following pairs of course are substitutions for any single course: <a href="#">CIV ENG 2200</a> and <a href="#">MECH ENG 2350</a> , <a href="#">PHYSICS 2305</a> and <a href="#">PHYSICS 4311</a> , <a href="#">PHYSICS 2305</a> and <a href="#">CER ENG 4240</a> , or <a href="#">PHYSICS 2305</a> and <a href="#">NUC ENG 3205</a> .
12	Students may replace <a href="#">STAT 3117</a> with <a href="#">STAT 3115</a> or <a href="#">STAT 5643</a> .
13	Student must take English 3560 or English 1160.
14	Comp Eng Elective A must be a 4000 or 5000-level Comp Eng, Elec Eng, or Comp Sci course with at least a 3-hour lecture component. This normally includes all Comp Eng and Elec Eng 4000 or 5000-level courses except Comp Eng or Elec Eng 4000, 4099, 4096, and 4097 or Comp Sci 5000, 4010, 5600, and 4099.
15	Comp Eng Electives C, D, and E must be 3000, 4000 or 5000-level courses from an approved list of science, mathematics, and engineering courses. In particular, this list includes all 3000, 4000 or 5000-level Comp Eng, Elec Eng and Comp Sci courses except required courses in Comp Eng, Elec Eng, and Comp Sci and except Comp Eng 4096 and 4097, Elec Eng 2800, 1002, 1003, 4096, and 4097, and Comp Sci 2002 and 4600/5600). Comp Eng Electives C, D, and E must include at least six hours of engineering or computer science courses.
16	COMP ENG Electives C, D, and E cannot include more than three hours of <a href="#">COMP ENG 4000</a> , <a href="#">COMP ENG 4099</a> , <a href="#">ELEC ENG 4000</a> , or <a href="#">ELEC ENG 4099</a> .
17	Students pursuing dual degrees in COMP ENG and ELEC ENG may take either <a href="#">COMP ENG 4096</a> or <a href="#">ELEC ENG 4096</a> and <a href="#">COMP ENG 4097</a> or <a href="#">ELEC ENG 4097</a> . Students may not receive credit for both <a href="#">COMP ENG 4096</a> and <a href="#">ELEC ENG 4096</a> or <a href="#">COMP ENG 4097</a> and <a href="#">ELEC ENG 4097</a> in the same degree program.
18	Students are required to take at least three credit hours. Elec Eng 2800 level, <a href="#">ELEC ENG 4096</a> , <a href="#">ELEC ENG 4097</a> , <a href="#">COMP ENG 4096</a> and <a href="#">COMP ENG 4097</a> may not be used for free electives. No more than one credit hour of <a href="#">COMP ENG 3002</a> or <a href="#">ELEC ENG 3002</a> may be applied to the BS degree for free electives.
19	Comp Eng Elective B must be a 4000 or 5000 level COMP ENG course with at least a 3-hour lecture component, excluding <a href="#">COMP ENG 4096</a> and <a href="#">COMP ENG 4097</a> .

## Emphasis Areas for Computer Engineering

**Note:** The following emphasis areas identify courses from which a student may opt to develop a specific emphasis. It is not required that students obtain an emphasis specialty within computer engineering.

### Computational Intelligence

Highly Recommended

<a href="#">COMP ENG 5310</a>	Computational Intelligence	3
<a href="#">ELEC ENG 5370</a>	Introduction To Neural Networks & Applications	3
Suggested		
<a href="#">ELEC ENG 5330</a>	Fuzzy Logic Control	3

## Computers and Architecture

Highly Recommended		
<a href="#">COMP ENG 4160</a>	Course COMP ENG 4160 Not Found	3
<a href="#">COMP ENG 5120</a>	Digital Computer Design	3
<a href="#">COMP ENG 5170</a>	Real-Time Systems	3
<a href="#">COMP ENG 5510</a>	Fault-Tolerant Digital Systems	3
Suggested		
<a href="#">COMP ENG 5610</a>	Real-Time Digital Signal Processing	3
<a href="#">COMP ENG 5130</a>	Advanced Microcomputer System Design	3
<a href="#">ELEC ENG 3320</a>	Control Systems	3
<a href="#">ELEC ENG 3100</a>	Electronics I	3
<a href="#">COMP SCI 3100</a>	Software Engineering I	3
<a href="#">COMP ENG 4151</a>	Course COMP ENG 4151 Not Found	3

## Embedded Computer Systems

Highly Recommended		
<a href="#">COMP ENG 4151</a>	Course COMP ENG 4151 Not Found	
<a href="#">COMP ENG 4160</a>	Course COMP ENG 4160 Not Found	
<a href="#">COMP ENG 5170</a>	Real-Time Systems	3
Suggested		
<a href="#">COMP ENG 5610</a>	Real-Time Digital Signal Processing	3
<a href="#">ELEC ENG 3320</a>	Control Systems	3
<a href="#">ELEC ENG 3100</a>	Electronics I	3
<a href="#">COMP SCI 3100</a>	Software Engineering I	3

## Integrated Circuits and Logic Design

Highly Recommended		
<a href="#">COMP ENG 5210</a>	Introduction To VLSI Design	3
<a href="#">COMP ENG 5220</a>	Digital System Modeling	3
Suggested		
<a href="#">ELEC ENG 3100</a>	Electronics I	3
<a href="#">COMP ENG 4151</a>	Course COMP ENG 4151 Not Found	3
<a href="#">COMP ENG 5110</a>	Principles of Computer Architecture	3
<a href="#">COMP ENG 5120</a>	Digital Computer Design	3
<a href="#">COMP ENG 5130</a>	Advanced Microcomputer System Design	3
<a href="#">COMP ENG 5510</a>	Fault-Tolerant Digital Systems	3

## Networking and Software Engineering

Highly Recommended		
<a href="#">COMP ENG 5450</a>	Digital Image Processing	3
<a href="#">COMP ENG 5460</a>	Machine Vision	3
<a href="#">COMP ENG 5430</a>	Wireless Networks	3

<a href="#">COMP ENG 5420</a>	Introduction to Network Security	3
Suggested		
<a href="#">COMP ENG 5110</a>	Principles of Computer Architecture	3
<a href="#">COMP SCI 3100</a>	Software Engineering I	3
<del>IS&amp;T 4644</del>	<del>Electronic and Mobile Commerce</del>	<del>3</del>
<a href="#">IS&amp;T 4641</a>	<a href="#">Electronic and Mobile Commerce</a>	<a href="#">3</a>

## Security and Reliability

Highly Recommended		
<a href="#">COMP ENG 5110</a>	Principles of Computer Architecture	3
<a href="#">COMP ENG 5420</a>	Introduction to Network Security	3
Suggested		
<a href="#">COMP ENG 5310</a>	Computational Intelligence	3

### Justification for request

This curriculum change addresses an ABET concern about the Technical Writing requirement allowing a substitution of a course that did not have engineering-related technical content. The curriculum change provides communications options to students directly, which is more consistent with other engineering Bachelor of Science programs on campus and eliminates the implication that the requirement must include a higher level of engineering-related content. The rigor of the English 1160 and English 3560 courses are similar – in fact, English 1160 is generally considered to be harder than English 3560. Few of the other programs on campus require both a writing course and a speech course; most require either a writing or a speech course (English 1160, English 3560, or Sp&MS 1185). The ECE program has the largest communication requirement.

### Supporting Documents

### Course Reviewer Comments

**lahne (10/28/14 9:13 am):** Rollback: .

**kleb6b (11/03/14 2:11 pm):** Rollback: Please address footnote 13 Student must take English 3560 or English 1160.

**kleb6b (02/06/15 3:23 pm):** Delete Comp Eng 4097 from Footnote #3, per April 16, 2012 ECE Faculty Meeting approval

**sraper (02/10/15 1:08 pm):** Changed 5 hours of free electives to 3 hours (prior to the 4 year plan), and changed any 3xxx, 4xxx, 5xxx, and 28xx to 3000, 4000, 5000 and 2800.

Key: 153

## Program Change Request

Date Submitted: 02/20/15 3:29 pm

Viewing: **GL&GPH-BS : Geology and Geophysics BS**

File: 64.16

Last approved: 05/06/14 9:20 am

Last edit: 03/05/15 11:37 am

Changes proposed by: wronk

Catalog Pages Using this Program	<a href="#">Geology and Geophysics</a>
Start Term	Fall <b>2015</b> <del>2014</del>
Program Code	GL&GPH-BS
Department	Geosciences and Geological and Petroleum Engineering
Title	Geology and Geophysics BS

## Program Requirements and Description

### Bachelor of Science Geology and Geophysics

A minimum of 127 credit hours is required for a Bachelor of Science degree in Geology and Geophysics. Students must average at least two grade points per credit hour and must obtain a letter grade of "C" or better in all Geology and Geophysics courses.

The Geology and Geophysics curriculum must include [ENGLISH 1120](#) and [ENGLISH 1160](#) , [ECON 1100](#) or [ECON 1200](#) , either [HISTORY 1200](#) , [HISTORY 1300](#) , [HISTORY 1310](#) or [POL SCI 1200](#) , and nine elective hours in humanities/social sciences. Specific requirements for the bachelor degree program are outlined in the sample program below

Freshman Year					
First Semester	Credits	Second Semester	Credits		
<a href="#">GEOLOGY 1110</a>	3	<a href="#">GEOLOGY 1120</a> <sup>1</sup>	3		
<a href="#">GEOLOGY 1119</a>	1	<a href="#">GEOLOGY 1129</a> <sup>1</sup>	1		
<a href="#">ENGLISH 1120</a>	3	<a href="#">MATH 1208</a> <sup>2</sup>	5		
<a href="#">CHEM 1310</a>	4	Elective (Science & Eng) <sup>3</sup>	3		
<a href="#">CHEM 1319</a>	1	Humanities/Social Science Elective	3		
<a href="#">CHEM 1100</a>	1				
	13		15		
Sophomore Year					
First Semester	Credits	Second Semester	Credits	Summer Semester	Credits
<a href="#">GEOLOGY 2610</a>	4	<a href="#">GEOLOGY 2620</a> <sup>1</sup>	4	<a href="#">GEOLOGY 2096</a>	3
<a href="#">GEOPHYS 2210</a>	3	<a href="#">GEOLOGY 3410</a>	3		

### In Workflow

- [RGEOENG Chair](#)
- [CCC Secretary](#)
- [Sciences DSCC Chair](#)
- [Engineering DSCC Chair](#)
- Pending CCC Agenda post
- CCC Meeting Agenda
- Campus Curricula Committee Chair
- FS Meeting Agenda
- Faculty Senate Chair
- Registrar
- kristyg

### Approval Path

- 02/20/15 3:31 pm  
ikuenobe: Approved for RGEOENG Chair
- 02/20/15 3:50 pm  
kleb6b: Approved for CCC Secretary
- 03/05/15 11:37 am  
imorgan: Approved for Sciences DSCC Chair

### History

- May 6, 2014 by  
ikuenobe



<a href="#">GEOPHYS 3210</a>	3	<a href="#">ENGLISH 1160</a> or <a href="#">3560</a>	3		
<a href="#">MATH 1221</a> <sup>2</sup>	5	<a href="#">ECON 1100</a> or <a href="#">1200</a>	3		
<a href="#">COMP SCI 1970</a> & <a href="#">COMP SCI 1980</a> (or <a href="#">COMP SCI 1971</a> & <a href="#">COMP SCI 1981</a> )	3	<a href="#">HISTORY 1200</a> , or <a href="#">1300</a> , or <a href="#">1310</a> , or <a href="#">POL SCI 1200</a>	3		
	15		16		3
<b>Junior Year</b>					
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>	<b>Summer Semester</b>	<b>Credits</b>
<a href="#">GEOLOGY 3310</a>	3	<a href="#">GEOLOGY 3620</a>	3	<a href="#">GEOLOGY 4097</a>	3
<a href="#">GEOLOGY 3319</a>	1	<a href="#">GEOLOGY 3629</a>	1		
<a href="#">PHYSICS 1135</a> <sup>4</sup>	4	<a href="#">PHYSICS 2135</a> <sup>4</sup>	4		
<a href="#">STAT 3113</a> , or <a href="#">3115</a> , or <a href="#">3117</a> , or <a href="#">GEO ENG 4115</a>	3	Elective (Geo & Geop) <sup>5</sup>	6		
Elective (Geo & Geop) <sup>5</sup>	3	Humanities/Social Sciences Elective	3		
	14		17		3
<b>Senior Year</b>					
<b>First Semester</b>	<b>Credits</b>	<b>Second Semester</b>	<b>Credits</b>		
<a href="#">GEOLOGY 4010</a>	1	<a href="#">GEOPHYS 4096</a> <sup>1</sup>	3		
Humanities/Social Sciences Elective	3	<a href="#">GEOLOGY 4310</a>	3		
Elective (Science & Eng) <sup>3</sup>	6	Elective (Science & Eng) <sup>3</sup>	6		
Elective (Geo & Geop) <sup>5</sup>	6	Free Elective <sup>6</sup>	3		
	16		15		
Total Credits: 127					

<sup>1</sup> Communications Emphasized (CE) courses

<sup>2</sup> Students may substitute [MATH 1214](#) for [MATH 1208](#); [MATH 1215](#) for [MATH 1221](#).

<sup>3</sup> All Geology/Geophysics students must complete at least 15 hours of elective course work in science (which may include additional Geology/Geophysics courses), mathematics, and/or engineering, courses required for the basic program. 12 hours of this course work must be numbered 2000 or above.

<sup>4</sup> Students may substitute [PHYSICS 1111](#) and [PHYSICS 1119](#) for [PHYSICS 1135](#); [PHYSICS 2111](#) and [PHYSICS 2119](#) for [PHYSICS 2135](#).

<sup>5</sup> All Geology and Geophysics students must complete at least 15 hours of elective course work numbered 2000 or above in the Department of Geology and Geophysics, in addition to the required core curriculum.

<sup>6</sup> Free elective hours may be taken in any combination of credit hours (1, 2, 3, etc.) and can include any course offerings at the University.

## Core Curriculum

Taken by all students in Geology & Geophysics.

<a href="#">GEOLOGY 1110</a>	Physical And Environmental Geology	3
<a href="#">GEOLOGY 1119</a>	Physical and Environmental Geology Laboratory	1
<a href="#">GEOLOGY 1120</a>	Evolution Of The Earth	3
<a href="#">GEOLOGY 1129</a>	Evolution of the Earth Laboratory <sup>5</sup>	1
<a href="#">GEOLOGY 2610</a>	Mineralogy And Crystallography	4
<a href="#">GEOLOGY 2620</a>	Igneous And Metamorphic Petrology	4
<a href="#">GEOLOGY 3310</a>	Structural Geology	3
<a href="#">GEOLOGY 3319</a>	<b>Structural Geology Lab</b>	<b>1</b>
<a href="#">GEOLOGY 3410</a>	Introduction To Geochemistry	3
<a href="#">GEOLOGY 3620</a>	Stratigraphy And Sedimentation	3
<a href="#">GEOLOGY 3629</a>	Stratigraphy Lab	1

<b>GEOPHYS 2210</b>	<b>Course GEOPHYS 2210 Not Found</b>	<b>3</b>
<a href="#">GEOLOGY 4010</a>	Seminar	1
<a href="#">GEOLOGY 4310</a>	Remote Sensing Technology	3
<a href="#">GEOLOGY 2096</a>	Field Geology	3
<a href="#">GEOLOGY 4097</a>	Advanced Field Geology	3
<b>GEOPHYS 3210</b>	<b>Introduction to Geophysics</b>	<b>3</b>
<a href="#">GEOPHYS 4096</a>	Global Tectonics	3
Total Credits		43

## Geology and Geophysics Focus Areas

### Geochemistry

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's advisor.		
<a href="#">GEOLOGY 3511</a>	Metallic And Industrial Mineral Deposits	3
<a href="#">GEOLOGY 4451</a>	Aqueous Geochemistry	3
<a href="#">GEOLOGY 4461</a>	Isotope Geochemistry	3
<a href="#">GEOLOGY 4631</a>	Advanced Igneous and Metamorphic Petrology	4
<a href="#">GEOLOGY 4841</a>	Geological Field Studies	3
<b>GEOLOGY 4444</b>	<b>Applied Geochemistry</b>	<b>3</b>
<a href="#">GEOLOGY 5611</a>	Granites And Rhyolites	4
<b>GEOLOGY 5671</b>	<b>Clay Mineralogy</b>	<b>3</b>
<b>CER ENG 2110</b>	<b>Atomic Structure Of Crystalline Ceramics</b>	<b>3</b>
<b>CER ENG 3220</b>	<b>Phase Equilibria</b>	<b>3</b>

### General Geology

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's advisor.		
<a href="#">GEOLOGY 3511</a>	Metallic And Industrial Mineral Deposits	3
<a href="#">GEOLOGY 3631</a>	Systematic Paleontology	3
<a href="#">GEOLOGY 3811</a>	Fundamentals Of Geographic Information Systems	3
<a href="#">GEOLOGY 4631</a>	Advanced Igneous and Metamorphic Petrology	4
<b>GEOLOGY 4511</b>	<b>Course GEOLOGY 4511 Not Found</b>	<b>3</b>
<a href="#">GEOLOGY 4711</a>	Paleoclimatology and Paleoecology	3
<a href="#">GEOLOGY 4841</a>	Geological Field Studies	3
<b>GEOLOGY 5513</b>	<b>Petroleum Geology</b>	<b>3</b>
<a href="#">GEOLOGY 5611</a>	Granites And Rhyolites	4
<b>GEOLOGY 5741</b>	<b>Micropaleontology</b>	<b>3</b>
<a href="#">GEOLOGY 6311</a>	Advanced Structural Geology	3
<b>GEOLOGY 4641</b>	<b>Course GEOLOGY 4641 Not Found</b>	<b>3</b>
<a href="#">GEO ENG 3175</a>	Geomorphology And Terrain Analysis	3

### Geophysics

Students must choose 1 math and 3 geophysics courses from the list. Students should also choose at least one additional course to be selected from an approved list and with guidance from student's advisor.		
<a href="#">MATH 2222</a>	Calculus With Analytic Geometry III	4

<a href="#">MATH 3304</a>	Elementary Differential Equations	3
<a href="#">MATH 3108</a>	Linear Algebra I	3
<a href="#">MATH 5325</a>	Partial Differential Equations	3
<a href="#">GEOPHYS 4224</a>	Course GEOPHYS 4224 Not Found	3
<a href="#">GEOPHYS 4231</a>	Seismic Interpretation	3
<a href="#">GEOPHYS 4241</a>	Course GEOPHYS 4241 Not Found	3
<a href="#">GEOPHYS 3254</a>	Course GEOPHYS 3254 Not Found	3
<a href="#">GEOPHYS 4254</a>	Course GEOPHYS 4254 Not Found	3
<a href="#">GEOPHYS 5202</a>	Exploration and Development Seismology	3
<a href="#">GEOPHYS 5231</a>	Seismic Data Processing	3
<a href="#">GEOPHYS 5261</a>	Computational Geophysics	3
<a href="#">GEOPHYS 5736</a>	Geophysical Field Methods	3

## Groundwater and Environmental Geochemistry

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's advisor.		
<a href="#">GEOLOGY 4411</a>	Hydrogeology	3
<a href="#">GEOLOGY 4431</a>	Methods Of Karst Hydrogeology	3
<a href="#">GEOLOGY 4451</a>	Aqueous Geochemistry	3
<a href="#">GEOPHYS 3254</a>	Course GEOPHYS 3254 Not Found	3
<a href="#">GEOLOGY 4711</a>	Paleoclimatology and Paleoecology	3
<a href="#">GEOLOGY 4444</a>	Applied Geochemistry	3
<a href="#">GEOPHYS 5782</a>	Environmental and Engineering Geophysics	3
<a href="#">BIO SCI 1173</a>	Introduction to Environmental Sciences	3
<a href="#">ENV ENG 2601</a>	Fundamentals of Environmental Engineering and Science	3
<a href="#">ENV ENG 5640</a>	Environmental Law And Regulations	3
<a href="#">GEO ENG 5237</a>	Geological Aspects Of Hazardous Waste Management	3
<a href="#">GEO ENG 5331</a>	Subsurface Hydrology	3

## Petroleum Geology

Students should complete at least 5 courses (15 hours minimum) from the list. Students may also choose additional courses to be selected from an approval list and with guidance from student's advisor.		
<a href="#">GEOLOGY 3631</a>	Systematic Paleontology	3
<a href="#">GEOLOGY 4621</a>	Course GEOLOGY 4621 Not Found	3
<a href="#">GEOLOGY 4641</a>	Course GEOLOGY 4641 Not Found	3
<a href="#">GEOLOGY 4611</a>	Course GEOLOGY 4611 Not Found	3
<a href="#">GEOLOGY 4511</a>	Course GEOLOGY 4511 Not Found	3
<a href="#">GEOPHYS 4254</a>	Course GEOPHYS 4254 Not Found	3
<a href="#">PET-ENG 3310</a>	Course PET-ENG 3310 Not Found	3
<a href="#">GEOLOGY 5311</a>	Depositional Systems	3
<a href="#">GEOLOGY 5513</a>	Petroleum Geology	3
<a href="#">GEOLOGY 5621</a>	Advanced Stratigraphy and Basin Evolution	3
<a href="#">GEOLOGY 5741</a>	Micropaleontology	3
<a href="#">GEOPHYS 5202</a>	Exploration and Development Seismology	3
<a href="#">PET ENG 3330</a>	Well Logging	3

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Justification for  
request

Supporting  
Documents

Course Reviewer    **imorgan (03/05/15 11:37 am):** This goes with the CC that requested to change  
Comments            GEOPHYS 2210 to GEOPHYS 3210.

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Key: 64

## Course Inventory Change Request

Date Submitted: 03/05/15 12:20 pm

Viewing: **BUS 4675 : International Business**

File: 1272.5

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

Last edit: 03/05/15 1:11 pm

Changes proposed by: barryf

Programs [BUS&MS-BS: Business and Mgmt Systems BS](#)  
referencing this  
course

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

Department Business and Information Technology

Discipline Business (BUS)

Course Number 4675

Title International Business

Abbreviated International Business  
Course Title

Catalog

Description

This survey course will deal with business concepts, analytical processes and philosophical bases for international business operations. Emphasis is on environmental dynamics, multinational business organizations, cultural and economic constraints, unique international business practices and international operations, strategy and policy.

Prerequisites

~~MKT 3110 or MKT 5105 or ENG MGT 3510.~~

Field Trip

Statement

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

Required for No

In Workflow

1. RBUSADMN

Chair

2. CCC Secretary

3. Social Sciences

DSCC Chair

4. Pending CCC

Agenda post

5. CCC Meeting

Agenda

6. Campus Curricula

Committee Chair

7. FS Meeting

Agenda

8. Faculty Senate

Chair

9. Registrar

10. Ishelton

11. Peoplesoft

Approval Path

1. 03/05/15 12:23  
pm

siauk: Approved  
for RBUSADMN  
Chair

2. 03/05/15 1:11 pm

kleb6b: Approved  
for CCC Secretary

3. 03/05/15 1:23 pm

barryf: Approved  
for Social  
Sciences DSCC  
Chair

4. 03/05/15 3:53 pm

kleb6b: Approved  
for Pending CCC  
Agenda post

## Majors

Elective for          No  
Majors

Justification for  
change:

Instructor reviewed prerequisites and determined they are not essential.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

## History

1. Apr 28, 2014 by  
lahne (1272.1)
2. Jun 30, 2014 by  
lahne (1272.3)

Key: 1272

## Course Inventory Change Request

Date Submitted: 02/25/15 10:11 am

Viewing: **BUS 5360 : Business Operations**

File: 507.4

Last approved: 07/07/14 3:48 am

Last edit: 02/25/15 2:40 pm

Changes proposed by: barryf

Programs [BUS&MS-BS: Business and Mgmt Systems BS](#)  
referencing this  
course

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

Department Business and Information Technology

Discipline Business (BUS)

Course Number 5360

Title Business Operations

Abbreviated Business Operations  
Course Title

### Catalog

#### Description

This course examines the concepts, processes, and institutions that are fundamental to an understanding of business operations within organizations. Emphasis is on the management and organization of manufacturing and service operations and the application of quantitative methods to the solution of strategic, tactical and operational problems.

#### Prerequisites

**BUS 1210, at least Junior standing, any statistics course.** ~~MATH 1208 or MATH 1212 or MATH 1214; any STAT course; BUS 1210 or ENG MGT 2211.~~

#### Field Trip

#### Statement

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

### In Workflow

1. **RBUSADMN**  
Chair
2. **CCC Secretary**
3. **Social Sciences**  
DSCC Chair
4. **Pending CCC**  
Agenda post
5. **CCC Meeting**  
Agenda
6. Campus Curricula  
Committee Chair
7. FS Meeting  
Agenda
8. Faculty Senate  
Chair
9. Registrar
10. Ishelton
11. Peoplesoft

### Approval Path

1. 02/25/15 1:44 pm  
siauk: Approved  
for RBUSADMN  
Chair
2. 02/25/15 2:40 pm  
kleb6b: Approved  
for CCC Secretary
3. 03/03/15 4:37 pm  
barryf: Approved  
for Social  
Sciences DSCC  
Chair
4. 03/05/15 3:54 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Required for  
Majors

No

Elective for  
Majors

Yes ~~No~~

#### History

1. Jul 7, 2014 by  
barryf (507.1)

Justification for  
change:

Instructor has re-evaluated the prerequisites needed.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 507



# Course Inventory Change Request

Date Submitted: 01/07/15 2:24 pm

Viewing: **CHEM 2229 : Organic Chemistry II Lab**

File: 1682.4

Last approved: 04/25/14 3:05 pm

Last edit: 03/05/15 3:31 pm

Changes proposed by: woelkk

Programs  
referencing this  
course

[BIO SC-BA: Biological Sciences BA](#)  
[BIO SC-BS: Biological Sciences BS](#)  
[CHEM-BA: Chemistry BA](#)  
[CHEM-BS: Chemistry BS](#)  
[PRE-MED-MI: Pre-Medicine Minor](#)

Other Courses  
referencing this  
course

In The Prerequisites:  
[CHEM 4297 : Organic Synthesis And Spectroscopic Analysis](#)

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department  
Chemistry

Discipline  
Chemistry (CHEM)

Course Number  
2229

Title  
Organic Chemistry II Lab

Abbreviated  
Course Title  
Organic Chemistry II Lab

Catalog  
Description  
Continuation of Chem 2219.

Prerequisites  
Chem **2219** or Chem **2289**, ~~2219~~, preceded **or** ~~or~~ accompanied by **both** Chem ~~Chem~~ 2220 and **Chem** ~~Chem~~ 1100.

Field Trip  
Statement

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

## In Workflow

1. **RCHEMIST Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 01/07/15 2:58 pm  
woelkk: Approved for RCHEMIST Chair
2. 01/09/15 12:08 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 3:32 pm  
imorgan: Approved for Sciences DSCC Chair
4. 03/05/15 3:55 pm  
kleb6b: Approved for Pending CCC Agenda post

Total: 1

Required for  
Majors YesElective for  
Majors No

## History

1. Apr 25, 2014 by  
lahne (1682.1)

Justification for  
change: Expansion of prerequisites; allowing ChemEng students who have taken Chem 2289  
(Organic I Lab for ChemEng students) to continue with Organic II Lab.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer **imorgan (03/05/15 3:31 pm):** Added "both" for clarity on the suggestion of D.  
Comments Tauritz. I will check with the department to make sure this is what was intended.

Key: 1682

# Course Inventory Change Request

Date Submitted: 03/05/15 3:35 pm

Viewing: **CHEM 2310 : Inorganic Chemistry I**

File: 1825.1

Last edit: 03/05/15 3:35 pm

Changes proposed by: imorgan

Programs  
referencing this  
course

[CHEM-BS: Chemistry BS](#)  
[CR ENG-BS: Ceramic Engineering BS](#)  
[MT ENG-BS: Metallurgical Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:  
[CHEM 6310 : Principles Of Inorganic Chemistry](#)  
[CHEM 6311 : Principles Of Inorganic Chemistry](#)  
[CHEM 6830 : Inorganic Polymers](#)

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Chemistry

Discipline

Chemistry (CHEM)

Course Number

2310

Title

Inorganic Chemistry I

Abbreviated  
Course Title

Inorganic Chemistry I

Catalog  
Description

A study of modern concepts of atomic structure, chemical bonding, thermodynamics and kinetics as related to the periodic relationship of the elements. Reference to topics of current interests as applied to the above areas.

Prerequisites

Field Trip  
Statement

Credit Hours

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

Total: 3

## In Workflow

1. **RCHEMIST Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 03/05/15 4:15 pm  
woelkk: Approved for RCHEMIST Chair
2. 03/05/15 4:23 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 6:48 pm  
imorgan: Approved for Sciences DSCC Chair
4. 03/06/15 8:00 am  
kleb6b: Approved for Pending CCC Agenda post

Required for  
Majors

Yes

Elective for  
Majors

No

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Justification for  
change:

Since Inorganic Chemistry II is being proposed, it makes sense to rename this course to Inorganic Chemistry I.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer  
Comments

Key: 1825

# Course Inventory Change Request

## New Course Proposal

Date Submitted: 12/19/14 11:10 am

Viewing: **CHEM 2320 : Inorganic Chemistry II**

File: 4173

Last edit: 12/19/14 11:10 am

Changes proposed by: woelkk

Programs  
referencing this  
course

[CHEM-BS: Chemistry BS](#)

Requested            Fall 2015

Effective Change  
Date

Department        Chemistry

Discipline         Chemistry (CHEM)

Course Number     2320

Title                Inorganic Chemistry II

Abbreviated        Inorganic Chemistry II  
Course Title

Catalog

Description

A study of coordination chemistry, organometallics, bioinorganic and solid-state inorganic chemistry. Reference to topics of current interest as applied to the above areas.

Prerequisites

CHEM 2310

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

Yes

Majors

### In Workflow

1. RCHEMIST Chair

2. CCC Secretary

3. Sciences DSCC  
Chair

4. Pending CCC  
Agenda post

5. CCC Meeting  
Agenda

6. Campus Curricula  
Committee Chair

7. FS Meeting  
Agenda

8. Faculty Senate  
Chair

9. Registrar

10. Ishelton

11. Peoplesoft

### Approval Path

1. 02/11/15 10:10  
am

woelkk: Approved  
for RCHEMIST  
Chair

2. 02/11/15 10:51  
am

kleb6b: Approved  
for CCC Secretary

3. 03/05/15 3:34 pm  
imorgan:

Approved for  
Sciences DSCC  
Chair

4. 03/05/15 3:56 pm

kleb6b: Approved  
for Pending CCC  
Agenda post

Elective for Majors	No
Justification for new course:	Expansion of Inorganic Chemistry Education as suggested by American Chemical Society BS degree program certification
Semesters previously offered as an experimental course	N/A
Co-Listed Courses:	
Course Reviewer Comments	

Key: 4173

## Course Inventory Change Request

Date Submitted: 12/17/14 9:41 am

Viewing: **CHEM ENG 2100 : Chemical Engineering Material & Energy Balances**

File: 1040.1

Last edit: 02/18/15 11:46 am

Changes proposed by: luksc

Programs  
referencing this  
course

[AP MATH-BS: Applied Mathematics BS](#)  
[CH ENG-BS: Chemical Engineering BS](#)  
[EV ENG-BS: Environmental Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:  
[CHEM ENG 2110 : Chemical Engineering Thermodynamics I](#)  
[CHEM ENG 3100 : Chemical Engineering Fluid Flow](#)

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Chemical and Biochemical Engineering

Discipline

Chemical Engineering (CHEM ENG)

Course Number

2100

Title

Chemical Engineering Material & Energy Balances

Abbreviated  
Course Title

Chem Eng Mat & Energy  
Balances

Catalog  
Description

The application of mathematics, physics and chemistry to industrial chemical processes. The use of equations of state, chemical reaction stoichiometry, and the conservation of mass and energy to solve chemical engineering problems.

Prerequisites

Chem **1320**, ~~1320~~; preceded or accompanied by Math 1215 (or 1221); preceded or accompanied by **Phys 1135** ~~Chem Eng 1100, or Comp Sci 1970 & 1980, or Comp Sci 1971 & 1981, or Comp Sci 1570 & 1580.~~

Field Trip  
Statement

### In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **marlene**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

### Approval Path

1. 02/18/15 11:43 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 02/18/15 11:46 am  
kleb6b: Approved  
for CCC Secretary
3. 02/27/15 11:10 am  
marlene:  
Approved for  
marlene
4. 03/02/15 9:43 am  
sraper: Approved  
for Engineering

Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0
Total: 3				
Required for Majors	Yes			
Elective for Majors	No			

DSCC Chair  
5. 03/05/15 3:57 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Justification for change: The faculty have re-evaluated the portions of the freshman engineering program that are needed to succeed in this course. The Computer Science co-requisite has been dropped. Physics has been added and Math 1215 has been moved to a pre-requisite.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 1040



# Course Inventory Change Request

Date Submitted: 12/17/14 9:45 am

Viewing: **CHEM ENG 2110 : Chemical Engineering Thermodynamics I**

File: 2041.1

Last edit: 03/02/15 11:08 am

Changes proposed by: luksc

Programs referencing this course  
[AP MATH-BS: Applied Mathematics BS](#)  
[CH ENG-BS: Chemical Engineering BS](#)  
[EV ENG-BS: Environmental Engineering BS](#)

Other Courses referencing this course  
In The Prerequisites:  
[CHEM ENG 3110 : Chemical Engineering Heat Transfer](#)

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

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 2110

Title Chemical Engineering Thermodynamics I

Abbreviated Course Title Chem Engr Thermo I

Catalog

Description

Development and application of the laws and fundamental relationships of thermodynamics to industrial chemical processes. Emphasis is placed on the estimation of thermophysical property values for applications in chemical process engineering.

Prerequisites

Preceded **by Math 2222; Preceded** or accompanied **by** ~~by~~ Chem Eng **2100. 2100, Math 2222; and Chem Eng 1100, or Comp Sci 1970 & 1980, or Comp Sci 1971 & 1981, or Comp Sci 1570 & 1580.**

Field Trip

## In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **marlene**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 02/18/15 11:43 am  
aldahhanm:  
Approved for RICHEMENG Chair
2. 02/18/15 11:47 am  
kleb6b: Approved for CCC Secretary
3. 02/27/15 11:10 am  
marlene:  
Approved for marlene
4. 03/02/15 11:08 am  
srafer: Approved

Statement					for Engineering DSCC Chair 5. 03/05/15 3:57 pm kleb6b: Approved for Pending CCC Agenda post
Credit Hours Total: 3	LEC: 3	LAB: 0	IND: 0	RSD: 0	
Required for Majors	Yes				
Elective for Majors	No				
Justification for change:	The faculty has re-evaluated the skills necessary to succeed in this course. The Computer Science co-requisite has been dropped. Math 2222 has been moved to pre-requisite status.				
Semesters previously offered as an experimental course					
Co-Listed Courses:					
Course Reviewer Comments	sraper (03/02/15 11:08 am): Changed to required for majors, based on Chem Eng email.				

Key: 2041

# Course Inventory Change Request

Date Submitted: 12/17/14 10:05 am

Viewing: **CHEM ENG 2300 : Chemical Process Materials**

File: 466.1

Last edit: 03/02/15 11:07 am

Changes proposed by: luksc

Programs CH ENG-BS: Chemical Engineering BS

referencing this course

Other Courses In The Prerequisites:  
CHEM ENG 5320 : Introduction to Nanomaterials

referencing this course

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

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 2300

Title Chemical Process Materials

Abbreviated Course Title  
Materials

Catalog Description

Fundamentals of the chemistry of materials. Classification, properties, selection, and processing of engineering materials. Introduction to polymers, electronic materials, biomaterials, and nanomaterials.

Prerequisites

~~Math 1215(1221),~~ Physics 1135.

Field Trip Statement

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

## In Workflow

1. RCHEMENG Chair
2. CCC Secretary
3. marlene
4. Engineering DSCC Chair
5. Pending CCC Agenda post
6. CCC Meeting Agenda
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 02/18/15 11:43 am  
aldahhanm:  
Approved for RCHEMENG Chair
2. 02/18/15 11:47 am  
kleb6b: Approved for CCC Secretary
3. 02/27/15 11:11 am  
marlene:  
Approved for marlene
4. 03/02/15 11:07 am  
sraper: Approved

Required for Majors	Yes	for Engineering DSCC Chair
Elective for Majors	No	5. 03/05/15 3:58 pm kleb6b: Approved for Pending CCC Agenda post
Justification for change:	Faculty has reviewed prerequisite structure and determined that Math 1215 is not necessary for success in this course.	
Semesters previously offered as an experimental course		
Co-Listed Courses:		
Course Reviewer Comments	<b>sraper (03/02/15 11:07 am):</b> Changed to Required for Majors - email from Chem Eng	

Key: 466

## Course Inventory Change Request

Date Submitted: 12/17/14 10:07 am

Viewing: **CHEM ENG 3100 : Chemical Engineering Fluid Flow**

File: 1801.1

Last edit: 03/02/15 11:08 am

Changes proposed by: luksc

Programs referencing this course	<a href="#">CH ENG-BS: Chemical Engineering BS</a> <a href="#">EV ENG-BS: Environmental Engineering BS</a>
Other Courses referencing this course	<u>In The Prerequisites:</u> <a href="#">CHEM ENG 3110 : Chemical Engineering Heat Transfer</a> <a href="#">CHEM ENG 4100 : Chemical Engineering Laboratory I</a> <a href="#">CHEM ENG 5340 : Principles Of Environmental Monitoring</a> <a href="#">NUC ENG 4257 : Two-phase Flow in Energy Systems - I</a>

Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	3100
Title	Chemical Engineering Fluid Flow
Abbreviated Course Title	Fluid Flow

Catalog Description	Mass, energy, and momentum balance concepts in fluid flow are studied to provide a basis for study of flow measurement, fluid behavior, turbulent flow, dimensional analysis of fluid flows, and the study of some practical flow processes such as : filtration, fluidization, compressible flow, pipe networks.
Prerequisites	Chem Eng 2100, Math 3304, <b>admitted to Chem Eng program.</b> <del>and Physics 1135.</del>
Field Trip Statement	

### In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **marlene**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

### Approval Path

1. 02/18/15 11:43 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 02/18/15 11:48 am  
kleb6b: Approved  
for CCC Secretary
3. 02/27/15 11:12 am  
marlene:  
Approved for  
marlene
4. 03/02/15 11:08 am  
srafer: Approved

Credit Hours Total: 3	LEC: 3	LAB: 0	IND: 0	RSD: 0	for Engineering DSCC Chair 5. 03/05/15 4:09 pm kleb6b: Approved for Pending CCC Agenda post
Required for Majors	Yes				
Elective for Majors	No				
Justification for change:	Faculty has reviewed prerequisite structure and determined that Phys 1135 is not necessary for success in this course.				
Semesters previously offered as an experimental course					
Co-Listed Courses:					
Course Reviewer Comments	sraper (03/02/15 11:08 am): Changed to required for majors, based on Chem Eng email.				

Key: 1801

# Course Inventory Change Request

Date Submitted: 12/17/14 9:49 am

Viewing: **CHEM ENG 3110 : Chemical Engineering Heat Transfer**

File: 2306.1

Last edit: 03/02/15 11:08 am

Changes proposed by: luksc

Programs referencing this course	<a href="#">CH ENG-BS: Chemical Engineering BS</a> <a href="#">EV ENG-BS: Environmental Engineering BS</a>
Other Courses referencing this course	<u>In The Prerequisites:</u> <a href="#">CHEM ENG 3140 : Continuous Mass Transfer</a> <a href="#">CHEM ENG 4100 : Chemical Engineering Laboratory I</a>

Requested Effective Change Date	Fall <del>2015</del> <b>2014</b>
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	3110
Title	Chemical Engineering Heat Transfer
Abbreviated Course Title	Heat Transfer

Catalog Description  
Process principles of heat transfer in the chemical process industry. Steady and unsteady state heat conduction and radiation heat transfer. Free and forced convection and condensation and boiling heat transfer. Practical heat exchanger design.

## Prerequisites

**Math 2222, admitted to Chem Eng program; ~~2110~~**; preceded or accompanied by Chem Eng 3100.

Field Trip Statement

## In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **marlene**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 02/18/15 11:43 am  
aldahhanm:  
Approved for RCHEMENG Chair
2. 02/18/15 11:48 am  
kleb6b: Approved for CCC Secretary
3. 02/27/15 11:13 am  
marlene:  
Approved for marlene
4. 03/02/15 11:08 am  
sraper: Approved

Credit Hours Total: 2	LEC: 2	LAB: 0	IND: 0	RSD: 0	for Engineering DSCC Chair 5. 03/05/15 4:09 pm kleb6b: Approved for Pending CCC Agenda post
Required for Majors	Yes				
Elective for Majors	No				
Justification for change:	The faculty has re-evaluated the prerequisite skills needed to succeed in this courses. Math 2222, multivariable calculus, is essential for this course. Chem Eng 2110 has been dropped.				
Semesters previously offered as an experimental course					
Co-Listed Courses:					
Course Reviewer Comments	sraper (03/02/15 11:08 am): Changed to required for majors, based on Chem Eng email.				

Key: 2306



# Course Inventory Change Request

Date Submitted: 12/17/14 10:10 am

Viewing: **CHEM ENG 3120 : Chemical Engineering Thermodynamics II**

File: 436.1

Last edit: 03/02/15 11:09 am

Changes proposed by: luksc

Programs  
referencing this  
course

[CH ENG-BS: Chemical Engineering BS](#)  
[EV ENG-BS: Environmental Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:  
[CHEM ENG 3130 : Staged Mass Transfer](#)  
[CHEM ENG 3160 : Molecular Chemical Engineering](#)  
[CHEM ENG 3200 : Biochemical Separations](#)

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Chemical and Biochemical Engineering

Discipline

Chemical Engineering (CHEM ENG)

Course Number

3120

Title

Chemical Engineering Thermodynamics II

Abbreviated  
Course Title

Chem Engr Thermo II

Catalog  
Description

Physical, chemical and reaction equilibrium. Study of the thermophysical relationships of multicomponent, multiphase equilibrium. Application of equilibrium relationships to the design and operation of chemical mixers, separators and reactors.

Prerequisites

Grade of "C" or better in Ch Eng 2100 and 2110, **admitted to Chem Eng program.**  
~~accompanied or preceded by Math 3304.~~

Field Trip  
Statement

## In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **marlene**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 02/18/15 11:44 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 02/18/15 11:48 am  
kleb6b: Approved  
for CCC Secretary
3. 02/27/15 11:13 am  
marlene:  
Approved for  
marlene
4. 03/02/15 11:09 am  
sraper: Approved

Credit Hours Total: 3	LEC: 3	LAB: 0	IND: 0	RSD: 0
Required for Majors	Yes			
Elective for Majors	No			

for Engineering  
DSCC Chair  
5. 03/05/15 4:10 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Justification for  
change: The faculty has reviewed the prerequisites and determined that Math 3304 was not  
required for success in this course.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments **sraper (03/02/15 11:09 am):** Changed to required for majors, based on Chem Eng  
email.

Key: 436

# Course Inventory Change Request

Date Submitted: 12/17/14 10:14 am

Viewing: **CHEM ENG 3140 : Continuous Mass Transfer**

File: 1526.1

Last edit: 03/02/15 11:09 am

Changes proposed by: luksc

Programs referencing this course	<u>CH ENG-BS: Chemical Engineering BS</u>
Other Courses referencing this course	<u>In The Prerequisites:</u> <u>CHEM ENG 3130 : Staged Mass Transfer</u> <u>CHEM ENG 3150 : Chemical Engineering Reactor Design</u> <u>CHEM ENG 4130 : Chemical Engineering Laboratory II</u> <u>CHEM ENG 5100 : Intermediate Transport Phenomena</u> <u>CHEM ENG 5120 : Interfacial Phenomena In Chemical Engineering</u> <u>CHEM ENG 5350 : Environmental Chemodynamics</u>

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 3140

Title Continuous Mass Transfer

Abbreviated  
Course Title Continuous Mass Transfer

Catalog  
Description

Fundamentals of diffusion and mass transfer applied to absorption, extraction, humidification, drying and filtration. Design and rating of continuous chemical separators.

Prerequisites

**Preceded or accompanied by Chem ~~Chem~~-Eng 3130, admitted to Chem Eng program. 3110, 3120 and preceded or accompanied by Chem 3410.**

## In Workflow

1. RCHEMENG Chair
2. CCC Secretary
3. marlene
4. Engineering DSCC Chair
5. Pending CCC Agenda post
6. CCC Meeting Agenda
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 02/18/15 11:44 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 02/18/15 11:49 am  
kleb6b: Approved  
for CCC Secretary
3. 02/27/15 11:14 am  
marlene:  
Approved for  
marlene
4. 03/02/15 11:09 am  
srapr: Approved

Field Trip  
Statement

for Engineering  
DSCC Chair  
5. 03/05/15 3:59 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Credit Hours  
Total: 3

LEC: 3

LAB: 0

IND: 0

RSD: 0

Required for  
Majors

Yes

Elective for  
Majors

No

Justification for  
change:

The faculty has reviewed the prerequisite chain and determined that the existing pre/co-requisites for this course were unnecessarily complicated and did not include the tie-in to staged mass transfer.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

**sraper (03/02/15 11:09 am):** Changed to required for majors, based on Chem Eng email.

Key: 1526

# Course Inventory Change Request

Date Submitted: 12/17/14 9:54 am

Viewing: **CHEM ENG 3200 : Biochemical Separations**

File: 1606.1

Last edit: 03/02/15 11:10 am

Changes proposed by: luksc

Programs referencing this course	<u>CH ENG-BS: Chemical Engineering BS</u>
Other Courses referencing this course	<u>In The Prerequisites:</u> <u>CHEM ENG 3130 : Staged Mass Transfer</u> <u>CHEM ENG 3150 : Chemical Engineering Reactor Design</u> <u>CHEM ENG 4200 : Biochemical Separations Laboratory</u> <u>CHEM ENG 4220 : Biochemical Reactor Laboratory</u> <u>CHEM ENG 5100 : Intermediate Transport Phenomena</u> <u>CHEM ENG 5120 : Interfacial Phenomena In Chemical Engineering</u> <u>CHEM ENG 5350 : Environmental Chemodynamics</u>

Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	3200
Title	Biochemical Separations
Abbreviated Course Title	Biochemical Separations

Catalog Description	The fundamentals of mass transfer are introduced and applied to various unit operations employed in the separation of chemical and biochemical compounds.
Prerequisites	Chem Eng <b>3120</b> , <b>admitted to 3120 and preceded or accompanied by</b> Chem Eng <b>program. 3130.</b>

## In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **marlene**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 02/18/15 11:44 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 02/18/15 11:49 am  
kleb6b: Approved  
for CCC Secretary
3. 02/27/15 11:15 am  
marlene:  
Approved for  
marlene
4. 03/02/15 11:10 am  
srafer: Approved

Field Trip  
Statement

Credit Hours  
Total: 3

LEC: 3

LAB: 0

IND: 0

RSD: 0

Required for  
Majors

**Yes**

Elective for  
Majors

**No**

Justification for  
change:

Chem Eng 3130 is not a necessary co-requisite course.

Semesters  
previously  
offered as an  
experimental  
course

**Changed to required for majors, based on Chem Eng email.**

Co-Listed  
Courses:

Course Reviewer  
Comments

for Engineering  
DSCC Chair  
5. 03/05/15 4:02 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Key: 1606

# Course Inventory Change Request

Date Submitted: 12/17/14 10:19 am

Viewing: **CHEM ENG 4097 : Chemical Process Design**

File: 862.1

Last edit: 03/02/15 11:10 am

Changes proposed by: luksc

Programs  
referencing this  
course

CH ENG-BS: Chemical Engineering BS

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

Effective Change  
Date

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 4097

Title Chemical Process Design

Abbreviated Process Design  
Course Title

Catalog

Description

Engineering principles involved in the design and layout of chemical process equipment. Material and energy balances, equipment selection and design, and preconstruction cost estimation are performed for a capstone design project. Communication emphasized course.

Prerequisites

Chem Eng 3130 and Chem Eng 3150; preceded or accompanied by Chem Eng **4110** ~~4110, Chem Eng 4120~~, and Chem Eng 4096.

Field Trip

Statement

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

Required for **Yes**  
Majors

In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **marlene**
4. **Engineering DSCC Chair**
5. **Pending CCC Agenda post**
6. **CCC Meeting Agenda**
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

Approval Path

1. 02/18/15 11:44 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 02/18/15 11:49 am  
kleb6b: Approved  
for CCC Secretary
3. 02/27/15 11:15 am  
marlene:  
Approved for  
marlene
4. 03/02/15 11:10 am  
srapr: Approved

Elective for  
Majors

No

for Engineering  
DSCC Chair  
5. 03/05/15 4:02 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Justification for  
change:

The faculty has reviewed the prerequisite structure and determined that Chem Eng 4120 is not necessary for success in this course.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

**sraper (03/02/15 11:10 am):** Changed to required for majors, based on Chem Eng email.

Key: 862



# Course Inventory Change Request

Date Submitted: 12/17/14 9:53 am

Viewing: **CHEM ENG 4210 : Biochemical Reactors**

File: 1607.1

Last edit: 03/02/15 11:10 am

Changes proposed by: luksc

Programs  
referencing this  
course CH ENG-BS: Chemical Engineering BS

Other Courses  
referencing this  
course In The Prerequisites:  
CHEM ENG 4220 : Biochemical Reactor Laboratory

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

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 4210

Title Biochemical Reactors

Abbreviated  
Course Title Biochemical Reactors

Catalog  
Description

Application of chemical engineering principles to biochemical reactors, and human physiology. Emphasis on cells as chemical reactors, enzyme catalysis and biological transport phenomena.

Prerequisites

~~Preceded or accompanied by~~ Chem Eng 3150 or graduate standing.

Field Trip  
Statement

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

## In Workflow

1. RCHEMENG Chair
2. CCC Secretary
3. marlene
4. Engineering DSCC Chair
5. Pending CCC Agenda post
6. CCC Meeting Agenda
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 02/18/15 11:44 am  
aldahhanm:  
Approved for  
RCHEMENG Chair
2. 02/18/15 11:50 am  
kleb6b: Approved  
for CCC Secretary
3. 02/27/15 11:15 am  
marlene:  
Approved for  
marlene
4. 03/02/15 11:10 am  
sraper: Approved

Required for  
Majors **Yes**

Elective for  
Majors **No**

for Engineering  
DSCC Chair  
5. 03/05/15 4:03 pm  
kleb6b: Approved  
for Pending CCC  
Agenda post

Justification for  
change:

Chem Eng 3150 should be a prerequisite for this course which is a continuation.  
Students who have taken both at the same time have not been adequately prepared  
to perform well in this course.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 1607

# Course Inventory Change Request

Date Submitted: 10/28/14 11:48 am

Viewing: **COMP ENG 6320 : Adaptive Dynamic Programming**  
**Critic-Designs**

File: 1880.1

Last edit: 11/05/14 9:53 am

Changes proposed by: stanleyj

Catalog Pages referencing this course	<u>Systems Engineering</u>
Other Courses referencing this course	<u>In The Catalog Description:</u> <u>AERO ENG 6458 : Adaptive Critic Designs</u> <u>ELEC ENG 6360 : Adaptive Critic Designs</u> <u>MECH ENG 6458 : Adaptive Critic Designs</u> <u>SYS ENG 6215 : Adaptive Critic Designs</u>
Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	6320
Title	Adaptive <b>Dynamic Programming</b> <del>Critic-Designs</del>
Abbreviated Course Title	Adaptive <b>Dynamic Program</b> <del>Critic-Designs</del>

## Catalog Description

Review of Neurocontrol and Optimization, Introduction to Approximate Dynamic Programming (ADP), Reinforcement Learning (RL), Combined Concepts of ADP and RL - Heuristic Dynamic Programming (HDP), Dual Heuristic Programming (DHP), Global Dual Heuristic Programming (GDHP), and Case Studies.

## Prerequisites

Elec Eng 5370 Neural Networks or equivalent (Computational Intelligence Comp Eng **5310**). ~~4001~~

## Field Trip

## In Workflow

1. RELECENG Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. RMECHENG Chair
5. RENGMMGT Chair
6. Pending CCC Agenda post
7. CCC Meeting Agenda
8. Campus Curricula Committee Chair
9. FS Meeting Agenda
10. Faculty Senate Chair
11. Registrar
12. Ishelton
13. Peoplesoft

## Approval Path

1. 11/03/14 2:01 pm daryl: Approved for RELECENG Chair
2. 11/03/14 2:12 pm kleb6b: Approved for CCC Secretary
3. 12/09/14 9:44 am sraper: Approved for Engineering DSCC Chair
4. 03/04/15 4:08 pm drallmei: Approved for RMECHENG Chair

Statement					5. 03/04/15 4:20 pm enke: Approved for RENGNGT Chair
Credit Hours Total: 3	LEC: 3	LAB: 0	IND: 0	RSD: 0	6. 03/05/15 4:04 pm kleb6b: Approved for Pending CCC Agenda post
Required for Majors	No				
Elective for Majors	Yes				
Justification for change:	Course title change is sought to be better reflect the course content.  The course title change needs to be applied to the co-listed courses Elec Eng 6360, Mech Eng 6458, Aero Eng 6458, Sys Eng 6215 (change course title to Adaptive Dynamic Programming).  Updated the prerequisite Computational Intelligence course to its current 4 digit course number.  The course title change was approved by the Computer Engineering faculty on September 25, 2014.				
Semesters previously offered as an experimental course					
Co-Listed Courses:	ELEC ENG 6360 - Adaptive Critic Designs MECH ENG 6458 - Adaptive Critic Designs AERO ENG 6458 - Adaptive Critic Designs SYS ENG 6215 - Adaptive Critic Designs				
Course Reviewer Comments	sraper (11/05/14 9:53 am): changed to elective for majors via email from Joe Stanley				

Key: 1880

# Course Inventory Change Request

Date Submitted: 10/28/14 11:30 am

Viewing: **COMP ENG 6510 : Resilient Networks**  
~~**Network-Centric Systems Reliability and Security**~~

File: 2451.1

Last edit: 11/05/14 9:54 am

Changes proposed by: stanleyj

Other Courses referencing this course	In The Catalog Description: <u><a href="#">SYS ENG 6322 : Network-Centric Systems Reliability and Security</a></u>
Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	6510
Title	<b>Resilient Networks</b> <del>Network-Centric Systems Reliability and Security</del>
Abbreviated Course Title	<b>Resilient Networks</b> <del>Net-Centric Reliability</del>

## Catalog Description

This course presents reliability and fault tolerance for network-centric systems, including models, metrics, and analysis techniques. This course also concentrates on security, including technical tools and methods for audit and assessment as well as management and policy issues.

## Prerequisites

Sys Eng/Comp Eng 6410 or Comp Eng 5420.

## Field Trip Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				
Required for	<b>No</b>			

## In Workflow

1. RELECENG Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. RENG MNGT Chair
5. Pending CCC Agenda post
6. CCC Meeting Agenda
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 11/03/14 2:01 pm daryl: Approved for RELECENG Chair
2. 11/03/14 2:12 pm kleb6b: Approved for CCC Secretary
3. 12/09/14 9:44 am sraper: Approved for Engineering DSCC Chair
4. 03/04/15 4:21 pm enke: Approved for RENG MNGT Chair
5. 03/05/15 4:07 pm

Majors

Elective for  
Majors

Yes

kleb6b: Approved  
for Pending CCC  
Agenda postJustification for  
change:

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

The course title change needs to be applied to the co-listed course Sys Eng 6322 (change course title to Resilient Networks).

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

Semesters  
previously  
offered as an  
experimental  
courseCo-Listed  
Courses:

SYS ENG 6322 - Network-Centric Systems Reliability and Security

Course Reviewer  
Comments

**sraper (11/05/14 9:54 am):** changed to elective for majors via email from Joe Stanley

Key: 2451

# Course Inventory Change Request

## New Course Proposal

Date Submitted: 01/28/15 1:29 pm

Viewing: **ELEC ENG 6350 : Neural Network Control of Nonlinear Continuous-time Systems**

File: 4176

Last edit: 03/06/15 8:00 am

Changes proposed by: martins

Requested	Fall 2015
Effective Change Date	
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	6350
Title	Neural Network Control of Nonlinear Continuous-time Systems
Abbreviated Course Title	Neural Network Control

Catalog Description	Neural network topologies, universal function approximation property, background on Lyapunov stability and dynamic systems, control of a class of nonlinear systems and robot manipulators, feedback linearization, backstepping control, force control, neural observers, decentralized neural network control, neural network-based optimal control and applications.			
Prerequisites	Elec Eng 6300 .			
Field Trip Statement				
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				
Required for Majors	No			
Elective for	Yes			

In Workflow

1. RELECENG Chair

2. CCC Secretary

3. Engineering DSCC Chair

4. Pending CCC Agenda post

5. CCC Meeting Agenda

6. Campus Curricula Committee Chair

7. FS Meeting Agenda

8. Faculty Senate Chair

9. Registrar

10. Ishelton

11. Peoplesoft

Approval Path

1. 01/30/15 5:51 pm daryl: Approved for RELECENG Chair

2. 02/02/15 8:03 am kleb6b: Approved for CCC Secretary

3. 02/17/15 10:07 am sraper: Approved for Engineering DSCC Chair

4. 03/06/15 8:01 am kleb6b: Approved for Pending CCC Agenda post

## Majors

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Justification for new course:	This course would support the research mission of the campus and provide students experience in this emerging field.
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Semesters previously offered as an experimental course	fall 2012 fall 2014
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Co-Listed Courses:	
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Course Reviewer Comments	<b>sraper (02/10/15 1:10 pm):</b> removed "or consent of instructor" from prereq.
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Key: 4176



# Course Inventory Change Request

Date Submitted: 11/21/14 8:45 am

Viewing: **ENG MGT 5515 : Integrated Product And Process Design**

File: 416.1

Last edit: 11/21/14 8:45 am

Changes proposed by: sraper

Catalog Pages referencing this course [Mechanical Engineering](#)

Programs referencing this course [DSCMGMT-MI: Digital Supply Chain Mgt Minor](#)

Other Courses referencing this course

In The Catalog Description: [MECH ENG 5757 : Integrated Product And Process Design](#)

In The Prerequisites: [ENG MGT 5516 : Integrated Product Development](#)  
[MECH ENG 5758 : Integrated Product Development](#)

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

Department Engineering Management and Systems Engineering

Discipline Engineering Management (ENG MGT)

Course Number 5515

Title Integrated Product And Process Design

Abbreviated Course Title Integrated Prod&Proc Dsg

Catalog Description

Emphasize design policies of concurrent engineering and teamwork, and documenting of design process knowledge. Integration of ~~various~~ product realization activities covering important aspects of a product life cycle such as "customer" needs analysis, concept generation, concept selection, product modeling, process

## In Workflow

1. RENGMMGT Chair
2. CCC Secretary
3. Engineering DSCC Chair
4. RMECHENG Chair
5. Pending CCC Agenda post
6. CCC Meeting Agenda
7. Campus Curricula Committee Chair
8. FS Meeting Agenda
9. Faculty Senate Chair
10. Registrar
11. Ishelton
12. Peoplesoft

## Approval Path

1. 11/21/14 9:03 am enke: Approved for RENGMMGT Chair
2. 11/21/14 9:10 am kleb6b: Approved for CCC Secretary
3. 12/05/14 9:15 am sraper: Approved for Engineering DSCC Chair
4. 03/04/15 4:14 pm drallmei: Approved for RMECHENG Chair
5. 03/06/15 8:02 am

development, ~~DFX strategies,~~ and **end of product** ~~end-of-product~~ life options.

Prerequisites

**Junior or above standing.** ~~Eng Mgt 3310 or Mech Eng 3653.~~

Field Trip

Statement

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

Required for  
Majors              **No**

Elective for  
Majors              **Yes**

Justification for  
change:              At the request of instructor so that students from departments other than Emgt and  
ME can take the course. Email confirmation with ME department approving the  
change. Catalog description revisions made in order to fit character limit.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:              MECH ENG 5757 - Integrated Product And Process Design

Course Reviewer      **enke (11/20/14 1:54 pm):** Rollback: Description check?  
Comments

kleb6b: Approved  
for Pending CCC  
Agenda post

Key: 416

# Course Inventory Change Request

Date Submitted: 03/05/15 12:21 pm

Viewing: **ERP 5110 : Enterprise Resource Planning Systems Design and Implementation**

File: 1798.1

Last edit: 03/05/15 1:11 pm

Changes proposed by: barryf

Catalog Pages referencing this course	<a href="#">Business Administration</a> <a href="#">Information Science and Technology</a>
Programs referencing this course	<a href="#">DSCMGMT-MI: Digital Supply Chain Mgt Minor</a> <a href="#">ERP-MI: Enterprise Resource Plan Minor</a> <a href="#">INORGPS-MS: Industrial Organizational Psychology MS</a>
Other Courses referencing this course	<u>In The Prerequisites:</u> <a href="#">ERP 5130 : ERP in Small &amp; Mid-Size Enterprises</a> <a href="#">ERP 5510 : ERP System Administration</a> <a href="#">ERP 6120 : Enterprise Resource Planning: Systems Config and Integration</a> <a href="#">ERP 6220 : Enterprise Performance Dashboard Prototyping</a>

Requested Effective Change Date	Fall <del>2015</del> <b>2014</b>
Department	Business and Information Technology
Discipline	Enterprise Resource Planning (ERP)
Course Number	5110
Title	Enterprise Resource Planning Systems Design and Implementation
Abbreviated Course Title	ERP Sys Des & Imp

Catalog Description	This course provides a technical overview of Enterprise Resource Planning Systems and their impact on organizations. SAP is introduced to illustrate the concepts, fundamentals, framework, general information technology context, the
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## In Workflow

1. **RBUSADMN Chair**
2. **CCC Secretary**
3. **Social Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 03/05/15 12:24 pm  
siauk: Approved for RBUSADMN Chair
2. 03/05/15 1:11 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 1:23 pm  
barryf: Approved for Social Sciences DSCC Chair
4. 03/06/15 8:03 am  
kleb6b: Approved for Pending CCC Agenda post

technological infrastructure, and integration of business enterprise-wide applications.

Prerequisites      **ERP 2110, previously or concurrently; or Graduate Standing and computer programming knowledge.**~~IS&T 1750.~~

Field Trip  
Statement

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

Required for  
Majors      **No**

Elective for  
Majors      **Yes**

Justification for  
change:      **Revise prerequisites. Graduate students will meet the prerequisite by meeting M.S. entrance standards in our department and in engineering and computer science departments.**

Course is required for one Graduate Certificate and for one Minor, but otherwise elective.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

# Course Inventory Change Request

Date Submitted: 01/14/15 1:46 pm

Viewing: **GEOLOGY 4831 : Computational Geology-Computer Mapping In Geology**

File: 701.1

Last edit: 03/05/15 2:46 pm

Changes proposed by: ikuenobe

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

Effective Change

Date

Department Geosciences and Geological and Petroleum Engineering

Discipline Geology (GEOLOGY)

Course Number 4831

Title **Computational Geology** ~~Computer Mapping In Geology~~

Abbreviated **Computational Geology**

Course Title ~~Computer Mapping In Geol~~

Catalog

Description

This course introduces the **technology used for** ~~basics of~~ both surface and subsurface geologic mapping. **It utilizes common systems and programs such as UNIX, Windows and industry-standard mapping applications. The goal of the course is to fully prepare students for their first professional assignment. It** ~~introduces procedures and problems associated with digitizing, gridding, contouring, volumetrics and generation of three dimensional diagrams on the PC. Integration of field gathered data with USGS and GSI databases for the purpose of making surface geologic maps is also included.~~

Prerequisites

**Geology 1110 or Geology 1120 or Geo Eng 1150.** ~~Geology 1110.~~

Field Trip

Statement

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

Required for **No**

In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 01/16/15 9:37 am  
reflori: Approved for RGEOENG Chair
2. 01/16/15 4:06 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 2:47 pm  
imorgan: Approved for Sciences DSCC Chair
4. 03/06/15 8:06 am  
kleb6b: Approved for Pending CCC Agenda post

## Majors

Elective for  
Majors**No**Justification for  
change:

It is increasingly important for geoscience graduates to be proficient in using various hardware and software technologies in solving problems in the geosciences and engineering.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:Course Reviewer  
Comments**imorgan (03/05/15 2:46 pm):** Prerequisite edited for clarity.

Key: 701

# Course Inventory Change Request

Date Submitted: 12/16/14 1:24 pm

Viewing: **GEOLOGY 5311 4611: Depositional Systems**

File: 263.1

Last edit: 03/05/15 2:51 pm

Changes proposed by: yangwa

Programs GL&GPH-BS: Geology and Geophysics BS  
referencing this  
course

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

Department Geosciences and Geological and Petroleum  
Engineering

Discipline Geology (GEOLOGY)

Course Number **5311-4611**

Title Depositional Systems

Abbreviated Depositional Systems  
Course Title

Catalog

Description

Development of three dimensional depositional models using Walther's Law, Walther's Warning and seismic stratigraphy. Emphasis on overall geometries and internal porosity and permeability characteristics of aquifers and hydrocarbon reservoirs. Includes 3-D models for clastic, carbonate and evaporate sequences.

Prerequisites

Geology 1110 or Geo Eng **1150; accompanied or preceded by both Geology 3310 and Geology 3620. 1150.**

Field Trip

Statement

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

Required for **No**

## In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 01/16/15 9:39 am  
reflori: Approved for RGEOENG Chair
2. 01/16/15 4:07 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 2:52 pm  
imorgan: Approved for Sciences DSCC Chair
4. 03/06/15 8:07 am  
kleb6b: Approved for Pending CCC Agenda post

## Majors

Elective for  
Majors**No**Justification for  
change:

This course was renumbered from Geology 332. Many graduate students took it for graduate studies. We propose to change it to a 5000 level course so that graduate students can take it for graduate credit.

My experience in teaching this course in the last 4 years indicates that knowledge in structural geology (Geology 3310) and stratigraphy and sedimentation (Geology 3620) is critical to effective and efficient learning.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

**imorgan (03/05/15 2:51 pm):** Edited prerequisite for clarity.

Key: 263



## Course Inventory Change Request

Date Submitted: 12/16/14 1:19 pm

Viewing: **GEOLOGY 5513** ~~4511~~: Petroleum Geology

File: 1552.1

Last edit: 03/05/15 2:54 pm

Changes proposed by: yangwa

Programs  
referencing this  
course

GL&GPH-BS: Geology and Geophysics BS

Requested  
Effective Change  
Date

**Summer 2015** ~~Fall 2014~~

Department

Geosciences and Geological and Petroleum  
Engineering

Discipline

Geology (GEOLOGY)

Course Number

**5513** ~~4511~~

Title

Petroleum Geology

Abbreviated  
Course Title

Petroleum Geology

### Catalog

#### Description

Principles of origin, migration, and accumulation of oil and gas. The laboratory introduces the procedures used for exploration, and development of hydrocarbon resources.

#### Prerequisites

Geology 1110 or Geo Eng **1150**; **accompanied or preceded by both 1150**  
(~~Introductory~~ ~~Geology 3310 and Geology 3620. course~~)

#### Field Trip

#### Statement

Credit Hours

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

Total: 3

Required for  
Majors

**No**

### In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC  
Chair**
4. **Pending CCC  
Agenda post**
5. **CCC Meeting  
Agenda**
6. Campus Curricula  
Committee Chair
7. FS Meeting  
Agenda
8. Faculty Senate  
Chair
9. Registrar
10. Ishelton
11. Peoplesoft

### Approval Path

1. 01/16/15 9:39 am  
reflori: Approved  
for RGEOENG  
Chair
2. 01/16/15 4:07 pm  
kleb6b: Approved  
for CCC Secretary
3. 03/05/15 2:55 pm  
imorgan:  
Approved for  
Sciences DSCC  
Chair
4. 03/06/15 8:07 am  
kleb6b: Approved  
for Pending CCC  
Agenda post

Elective for  
Majors

**No**

Justification for  
change:

This course was renumbered from Geology 340. Many graduate students took it for graduate studies. We propose to change it to a 5000 level course so that graduate students can take it for graduate credit.

My experience in teaching this course in the last 4 years indicates that knowledge in structural geology (Geology 3310) and stratigraphy and sedimentation (Geology 3620) is critical to effective and efficient learning.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

**imorgan (03/05/15 2:54 pm):** Edited prerequisite for clarity.

Key: 1552

## Course Inventory Change Request

Date Submitted: 12/16/14 1:31 pm

Viewing: **GEOLOGY 5621 4621: Advanced Stratigraphy and And-Basin Evolution**

File: 1317.1

Last edit: 03/06/15 8:08 am

Changes proposed by: yangwa

Programs  
referencing this  
course

[GL&GPH-BS: Geology and Geophysics BS](#)

Requested  
Effective Change  
Date

**Summer 2015** ~~Fall 2014~~

Department

Geosciences and Geological and Petroleum  
Engineering

Discipline

Geology (GEOLOGY)

Course Number

**5621-4621**

Title

Advanced Stratigraphy **and And**-Basin Evolution

Abbreviated  
Course Title

Adv Stratig & Basin Evol

Catalog  
Description

Advanced topics in sedimentary geology including: tectonic controls on sedimentary basin development, global sequence stratigraphy, regional facies and diagenetic patterns, basin hydrogeology, thermal evolution of basins and distribution of economic resources.

Prerequisites

Geology 3620, 3310, preceded or accompanied by Geology 3410 recommended.

Field Trip  
Statement

**May require one or two one-day field trips.**

Credit Hours

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

Total: 3

### In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

### Approval Path

1. 01/16/15 9:46 am  
reflori: Approved for RGEOENG Chair
2. 01/16/15 4:08 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 3:52 pm  
imorgan: Approved for Sciences DSCC Chair
4. 03/06/15 8:09 am  
kleb6b: Approved for Pending CCC Agenda post

Required for  
Majors

No

Elective for  
Majors

No

Justification for  
change:

This course was renumbered from Geology 324. Many graduate students took it for graduate studies. We propose to change it to a 5000 level course so that graduate students can take it for graduate credit.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 1317

## Course Inventory Change Request

Date Submitted: 02/07/15 4:16 pm

Viewing: **GEOLOGY 5741 4641: Micropaleontology**

File: 2027.1

Last edit: 02/07/15 4:16 pm

Changes proposed by: ikuenobe

Programs  
referencing this  
course

GL&GPH-BS: Geology and Geophysics BS

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Geosciences and Geological and Petroleum  
Engineering

Discipline

Geology (GEOLOGY)

Course Number

**5741** ~~4641~~

Title

Micropaleontology

Abbreviated  
Course Title

Micropaleontology

Catalog  
Description

**This course studies the fossil and soft-body characteristics of bacteria, protists, microinvertebrates and organic-walled microfossils (palynomorphs). Focused discussions on systematics, evolutionary histories, paleoecology, and geologic applications of the microfossil groups. Extraction of foraminifera and palynomorphs from rocks in lab. ~~Introduction to the preparation and study of microscopic fossils.~~**

Prerequisites

Geology 3631.

Field Trip  
Statement

Credit Hours

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

Total: 3

### In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC  
Chair**
4. **Pending CCC  
Agenda post**
5. **CCC Meeting  
Agenda**
6. Campus Curricula  
Committee Chair
7. FS Meeting  
Agenda
8. Faculty Senate  
Chair
9. Registrar
10. Ishelton
11. Peoplesoft

### Approval Path

1. 02/07/15 4:17 pm  
ikuenobe:  
Approved for  
RGEOENG Chair
2. 02/09/15 9:21 am  
kleb6b: Approved  
for CCC Secretary
3. 03/05/15 2:56 pm  
imorgan:  
Approved for  
Sciences DSCC  
Chair
4. 03/06/15 8:09 am  
kleb6b: Approved  
for Pending CCC  
Agenda post

Required for  
Majors

No

Elective for  
Majors

No

Justification for  
change:

Approximately 75% of students enrolled in this course are M.S. and Ph.D. student.  
Re-classification from 4000 to 5000 level allows this course to count toward graduate  
requirement.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 2027

## Course Inventory Change Request

Date Submitted: 02/17/15 12:09 pm

Viewing: **GEOPHYS 5231 : Seismic Data Processing**

File: 1836.1

Last edit: 03/05/15 3:48 pm

Changes proposed by: liukh

Programs GL&GPH-BS: Geology and Geophysics BS  
referencing this  
course

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

Department Geosciences and Geological and Petroleum  
Engineering

Discipline Geophysics (GEOPHYS)

Course Number 5231

Title Seismic Data Processing

Abbreviated Seismic Data Processing  
Course Title

Catalog  
Description

Introduction to seismic data processing. Topics to be covered include statics corrections, filtering, velocity analysis, deconvolution, stacking and migration. **The course has a field component to record seismic data.**

Prerequisites

Geophys **3210** ~~2210~~ or Geophys **5202**. ~~4251~~.

Field Trip  
Statement

**If this is offered in the summer, an off-campus trip may be needed. Extra fee may be charged to cover the field expenses.**

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

Required for **No**  
Majors

### In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

### Approval Path

1. 02/17/15 12:36 pm  
ikuenobe:  
Approved for RGEOENG Chair
2. 02/17/15 1:11 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 3:49 pm  
imorgan:  
Approved for Sciences DSCC Chair
4. 03/06/15 8:11 am  
kleb6b: Approved for Pending CCC Agenda post

Elective for  
Majors

Yes

Justification for  
change:

A sentence "Seismic data will be recorded over a multi-day off-campus field trip." was added to the course description. The purpose of the change is to enhance the experimental learning component of the class and to give the students a more comprehensive education on both the acquisition and processing of seismic data.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

**imorgan (03/05/15 3:48 pm):** The description has been changed slightly since the original justification.

Key: 1836



# Course Inventory Change Request

Date Submitted: 01/14/15 2:23 pm

Viewing: **GEOPHYS 5782 3251: Environmental and And Engineering Geophysics**

File: 1790.1

Last edit: 03/06/15 8:13 am

Changes proposed by: liukh

Programs  
referencing this  
course [GL&GPH-BS: Geology and Geophysics BS](#)

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

Department Geosciences and Geological and Petroleum  
Engineering

Discipline Geophysics (GEOPHYS)

Course Number **5782-3251**

Title Environmental **and And**-Engineering Geophysics

Abbreviated Env **and And**-Engr Geophysics  
Course Title

Catalog

Description

An introduction to the theory and application of the gravity, magnetic, resistivity, self-potential, induced polarization and electromagnetic methods as applied to the solution of engineering and environmental problems.

Prerequisites

Math 2222.

Field Trip

Statement

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

Required for **No**

## In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 01/16/15 9:47 am  
reflori: Approved for RGEOENG Chair
2. 01/16/15 4:08 pm  
kleb6b: Approved for CCC Secretary
3. 03/05/15 2:39 pm  
imorgan: Approved for Sciences DSCC Chair
4. 03/06/15 8:13 am  
kleb6b: Approved for Pending CCC Agenda post

## Majors

Elective for  
Majors**No**Justification for  
change:

Change course number from 3251 to 5782. This course is co-listed with Geo Eng 5782. Students were confused by the different course numbers. Therefore, we propose to change this course number to be the same as Geo Eng's.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

GEO ENG 5782 - Environmental And Engineering Geophysics

Course Reviewer  
Comments

**imorgan (03/05/15 2:39 pm):** For some reason, when I try to look up Geo Eng 5782 it brings up this course. I wanted to make sure the co-list in Geo Eng 5782 would correctly be changed from Geology 3251 to Geology 5782.

Key: 1790

# Course Inventory Change Request

Date Submitted: 02/25/15 10:12 am

Viewing: **IS&T 4654 : Web and Digital Media Development**

File: 920.6

Last approved: 07/03/14 4:00 am

Last edit: 02/25/15 2:41 pm

Changes proposed by: barryf

Programs  
referencing this  
course

[BUS&MS-BS: Business and Mgmt Systems BS](#)  
[ENTPRNS-MI: Entrepreneurship Minor](#)  
[IST-BS: Information Science and Tch BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:  
[IS&T 5652 : Advanced Web Development](#)

Requested  
Effective Change  
Date

Fall **2015** ~~2014~~

Department

Business and Information Technology

Discipline

Info Science & Technology (IS&T)

Course Number

4654

Title

Web and Digital Media Development

Abbreviated  
Course Title

Web and Digital Media Dev

Catalog  
Description

This course covers techniques and tools for design and development of web-based media, including text, graphics, animation, audio, and video.

Prerequisites

~~IS&T-1750.~~

Field Trip  
Statement

Credit Hours

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

Total: 3

## In Workflow

1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences  
DSCC Chair
4. Pending CCC  
Agenda post
5. CCC Meeting  
Agenda
6. Campus Curricula  
Committee Chair
7. FS Meeting  
Agenda
8. Faculty Senate  
Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 02/25/15 1:43 pm  
siauk: Approved  
for RINFSCTE  
Chair
2. 02/25/15 2:41 pm  
kleb6b: Approved  
for CCC Secretary
3. 03/03/15 4:37 pm  
barryf: Approved  
for Social  
Sciences DSCC  
Chair
4. 03/06/15 8:16 am  
kleb6b: Approved  
for Pending CCC  
Agenda post

## History

Required for  
Majors

No

Elective for  
Majors

No

1. May 2, 2014 by  
barryf (920.1)

2. Jul 3, 2014 by  
lahne (920.5)

Justification for  
change:

Instructor determined that prerequisite was not essential.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 920

# Course Inventory Change Request

Date Submitted: 03/05/15 12:20 pm

Viewing: **MKT 5310 : Digital Marketing and Promotions**

File: 497.1

Last edit: 03/05/15 1:12 pm

Changes proposed by: barryf

Catalog Pages referencing this course	<a href="#">Business Administration</a> <a href="#">Information Science and Technology</a>			
Programs referencing this course	<a href="#">BUS&amp;MS-BS: Business and Mgmt Systems BS</a> <a href="#">E&amp;S COM-MI: Elect &amp; Social Commerce Minor</a> <a href="#">ENTPRNS-MI: Entrepreneurship Minor</a> <a href="#">MARKET-MI: Marketing Minor</a>			
Requested Effective Change Date	Fall <b>2015</b> <del>2014</del>			
Department	Business and Information Technology			
Discipline	Marketing (MKT)			
Course Number	5310			
Title	Digital Marketing and Promotions			
Abbreviated Course Title	Digital Marketing Promotions			
Catalog Description	<p>A managerial examination of integrated marketing communication (IMC) and creativity, with a focus on digital media and new marketing concepts. Specifically, we will look at innovative marketing techniques such as viral marketing, brand communities, experiential marketing and guerilla tactics.</p>			
Prerequisites	<p><b>At least Junior standing.</b> <del>Psych 1101.</del></p>			
Field Trip Statement				
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0

## In Workflow

- 1. RBUSADMN Chair**
- 2. CCC Secretary**
- 3. Social Sciences DSCC Chair**
- 4. Pending CCC Agenda post**
- 5. CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

- 03/05/15 12:24 pm  
siauk: Approved for RBUSADMN Chair
- 03/05/15 1:12 pm  
kleb6b: Approved for CCC Secretary
- 03/05/15 1:23 pm  
barryf: Approved for Social Sciences DSCC Chair
- 03/06/15 8:17 am  
kleb6b: Approved for Pending CCC Agenda post

Total: 3

Required for  
Majors **No**

Elective for  
Majors **No**

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Justification for  
change: Instructor reviewed prerequisite and recommended change.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer  
Comments

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Key: 497

# Course Inventory Change Request

Date Submitted: 01/19/15 10:11 am

Viewing: **PET ENG 6231 5231: Drilling Optimization**

File: 2185.1

Last edit: 02/09/15 9:22 am

Changes proposed by: reflori

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

Effective Change

Date

Department Geosciences and Geological and Petroleum Engineering

Discipline Petroleum Engineering (PET ENG)

Course Number **6231** ~~5231~~

Title Drilling Optimization

Abbreviated Course Title Drilling Optimization

Catalog

Description

Optimization of the drilling process based on geomechanical model of the subsurface. Topics include drilling hydraulics, drilling bits, selection of operational parameters and analysis of drilling time and cost.

Prerequisites

Pet Eng 3210.

Field Trip

Statement

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

Required for Majors **No**

Elective for Majors **No**

Justification for change:

## In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 02/07/15 12:01 pm  
ikuenobe: Approved for RGEOENG Chair
2. 02/09/15 9:22 am  
kleb6b: Approved for CCC Secretary
3. 02/17/15 10:09 am  
srafer: Approved for Engineering DSCC Chair
4. 03/06/15 8:24 am  
kleb6b: Approved for Pending CCC Agenda post

Graduate students need the 6xxx number to meet grad requirements.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

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Course Reviewer

Comments

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Key: 2185



# Course Inventory Change Request

## New Course Proposal

Date Submitted: 01/19/15 10:41 am

Viewing: **PET ENG 6431 : Advanced Well Completion Design**

File: 4175

Last edit: 01/19/15 10:41 am

Changes proposed by: reflori

Requested	Fall 2015
Effective Change	
Date	
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Petroleum Engineering (PET ENG)
Course Number	6431
Title	Advanced Well Completion Design
Abbreviated	Adv Compl Des
Course Title	

Catalog Description  
Overview of hardware, fluids and processes employed in completing oil and gas wells. Types of well completions and design considerations. Downhole mechanics, tubing movement and stress calculations. Advanced concepts in well completion design and review of well completions literature.

Prerequisites  
Students may not earn credit for both Pet Eng 4431 and Pet Eng 6431. Prerequisite: Pet Eng 3520.

Field Trip Statement

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

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

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

### Approval Path

1. 02/07/15 12:01 pm  
ikuenobe: Approved for RGEOENG Chair
2. 02/09/15 9:22 am  
kleb6b: Approved for CCC Secretary
3. 02/17/15 10:09 am  
sraper: Approved for Engineering DSCC Chair
4. 03/06/15 8:25 am  
kleb6b: Approved for Pending CCC Agenda post

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Justification for new course:	Well completions are extremely important to petroleum engineers. They are expensive and can be quite complex.
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Semesters previously offered as an experimental course	Not sure, but several.
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Co-Listed Courses:	
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Course Reviewer Comments	
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Key: 4175

# Course Inventory Change Request

Date Submitted: 01/19/15 10:12 am

Viewing: **PET ENG 6521 5521-: Advanced Well Test Analysis**

File: 15.1

Last edit: 02/09/15 9:23 am

Changes proposed by: reflori

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

Effective Change

Date

Department Geosciences and Geological and Petroleum Engineering

Discipline Petroleum Engineering (PET ENG)

Course Number **6521** ~~5521~~

Title Advanced Well Test Analysis

Abbreviated Course Title Advanced Well Test Analysis

Catalog

Description

Pressure transient analysis equations, well test analysis for fractured wells, horizontal wells, injection wells, and other special situations. Introduction to rate transient analysis.

Prerequisites

Pet Eng 3520 and Pet Eng 4520.

Field Trip

Statement

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

Required for Majors **No**

Elective for Majors **No**

Justification for change:

## In Workflow

1. **RGEOENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

## Approval Path

1. 02/07/15 12:01 pm  
ikuenobe: Approved for RGEOENG Chair
2. 02/09/15 9:23 am  
kleb6b: Approved for CCC Secretary
3. 02/17/15 10:10 am  
srafer: Approved for Engineering DSCC Chair
4. 03/06/15 8:25 am  
kleb6b: Approved for Pending CCC Agenda post

Graduate students need the 6xxx number to meet grad course requirements.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

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Course Reviewer

Comments

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Key: 15

# Course Inventory Change Request

## New Course Proposal

Date Submitted: 02/23/15 2:22 pm

Viewing: **PHILOS 1130 : Introduction to Ethics**

File: 4195

Last edit: 03/06/15 8:26 am

Changes proposed by: denises

Requested Fall 2015

Effective Change

Date

Department Arts, Languages, & Philosophy

Discipline Philosophy (PHILOS)

Course Number 1130

Title Introduction to Ethics

Abbreviated Introduction to Ethics

Course Title

Catalog

Description

A complex and rich tradition in philosophical thought, Ethics - from the Ancient Greeks up into contemporary thought philosophers - returns again and again to discuss theories in proper behavior. No previous exposure to philosophy is required.

Prerequisites

None.

Field Trip

Statement

None.

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

Yes

Majors

Justification for

new course:

### In Workflow

1. RPHILOSO Chair
2. CCC Secretary
3. Arts & Humanities DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

### Approval Path

1. 02/23/15 2:22 pm  
lance: Approved for RPHILOSO Chair
2. 02/23/15 2:41 pm  
kleb6b: Approved for CCC Secretary
3. 02/23/15 4:01 pm  
ivliyeva: Approved for Arts & Humanities DSCC Chair
4. 03/06/15 8:27 am  
kleb6b: Approved for Pending CCC Agenda post

This is part of an online collaborative program with UMSL to reduce the need to offer these classes independently at MST and UMSL.

Requesting a permanent title.

Semesters Summer 2013, Spring 2015

previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer **kleb6b (02/23/15 2:17 pm):** Rollback: Indicate Lec, Lab, or RSD hours

Comments

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Key: 4195

# Course Inventory Change Request

## New Course Proposal

Date Submitted: 02/23/15 3:38 pm

Viewing: **PHILOS 3302 : Medieval Philosophy**

File: 4196

Last edit: 03/06/15 8:27 am

Changes proposed by: denises

Requested Fall 2015

Effective Change

Date

Department Arts, Languages, & Philosophy

Discipline Philosophy (PHILOS)

Course Number 3302

Title Medieval Philosophy

Abbreviated Medieval Philosophy

Course Title

Catalog

Description

A critical study of the important philosophies of the period from Augustine to the Renaissance. Although there is no formal prerequisite, it is recommended that students have taken at least one other philosophy course.

Prerequisites

A previous class in philosophy is recommended.

Field Trip

Statement

None

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

Yes

Majors

Justification for

new course:

In Workflow

1. RPHILOSO Chair

2. CCC Secretary

3. Arts &

Humanities DSCC

Chair

4. Pending CCC

Agenda post

5. CCC Meeting

Agenda

6. Campus Curricula

Committee Chair

7. FS Meeting

Agenda

8. Faculty Senate

Chair

9. Registrar

10. Ishelton

11. Peoplesoft

Approval Path

1. 02/23/15 3:49 pm

lance: Approved

for RPHILOSO

Chair

2. 02/23/15 3:58 pm

kleb6b: Approved

for CCC Secretary

3. 02/23/15 4:02 pm

ivliyeva:

Approved for Arts

& Humanities

DSCC Chair

4. 03/06/15 8:28 am

kleb6b: Approved

for Pending CCC

Agenda post

Requesting a permanent number. This is part of an online collaborative program with UMSL to reduce the need to offer these classes independently at MST and UMSL.

Semesters Summer 2010, Spring 2015

previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

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Course Reviewer

Comments

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Key: 4196



## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 02/06/15 12:28 pm

Viewing: **AERO ENG 6001.TBD : Adaptive Control of Mechanical and Aerospace Systems**

File: 4184

Last edit: 02/06/15 12:28 pm

Changes proposed by: nisbett

Requested	Fall 2015
Effective Change Date	
Department	Mechanical & Aerospace Engineering
Discipline	Aerospace Engineering (AERO ENG)
Course Number	6001
Topic ID	TBD
Experimental Title	Adaptive Control of Mechanical and Aerospace Systems
Experimental Abbreviated Course Title	Adaptive Control
Instructors	Dr. Tansel Yucelen

#### Experimental Catalog Description

This course is designed to introduce students to the basics of adaptive control theory and its current state of the art. Throughout the course both synthesis and analysis of adaptive control laws for mechanical and aerospace systems will be presented based on stability, robustness, and performance considerations.

Prerequisites Mech Eng 5481 or Aero Eng 5481, or an equivalent course on linear systems theory

Field Trip Statement None

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
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Justification for This is an important advanced controls topic in the mechanical and aerospace fields.

#### In Workflow

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

#### Approval Path

1. 02/06/15 1:36 pm  
drallmei:  
Approved for RMECHENG Chair
2. 02/06/15 2:09 pm  
kleb6b: Approved for CCC Secretary
3. 02/17/15 10:06 am  
sraper: Approved for Engineering DSCC Chair
4. 03/05/15 3:44 pm  
kleb6b: Approved for Pending CCC Agenda post

new course:

This course is to be co-listed with Mech Eng 6001, which is submitted on a separate form (since the co-list option on this form didn't allow it to be added.)

Semester(s)      None  
previously taught

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 4184

# Course Inventory Change Request

## New Experimental Course Proposal

Date Submitted: 12/05/14 11:59 am

Viewing: **AERO ENG 6001.TBD : Methods in Orbit Determination**

File: 4159

Last edit: 02/10/15 1:03 pm

Changes proposed by: demarsk

Requested	Fall 2015
Effective Change Date	
Department	Mechanical & Aerospace Engineering
Discipline	Aerospace Engineering (AERO ENG)
Course Number	6001
Topic ID	TBD
Experimental Title	Methods in Orbit Determination
Experimental Abbreviated Course Title	Orbit Determination
Instructors	Kyle DeMars

Experimental Catalog Description

Least squares estimation; recursive estimation; Kalman filtering; Bayesian filtering; geometric initial orbit determination; probabilistic initial orbit determination; numerical methods in orbit determination

Prerequisites AERO ENG 5614

Field Trip Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
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Justification for new course: Some students need the course for their research.

### In Workflow

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

### Approval Path

1. 02/06/15 1:35 pm  
drallmei:  
Approved for RMECHENG Chair
2. 02/06/15 2:09 pm  
kleb6b: Approved for CCC Secretary
3. 02/17/15 10:06 am  
srafer: Approved for Engineering DSCC Chair
4. 03/05/15 3:46 pm  
kleb6b: Approved for Pending CCC Agenda post

Semester(s)  
previously taught  
Co-Listed  
Courses:

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Course Reviewer     **sraper (02/10/15 1:03 pm):** Course title was not necessary for the prereq course.  
Comments

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Key: 4159

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 02/18/15 3:00 pm

Viewing: **ELEC ENG 6001.TBD : Advanced Signal and Power Integrity**

File: 4193

Last edit: 02/18/15 3:00 pm

Changes proposed by: martins

Requested	Fall 2015
Effective Change Date	
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	6001
Topic ID	TBD
Experimental Title	Advanced Signal and Power Integrity
Experimental Abbreviated Course Title	Adv Signal & Power Integ
Instructors	Dr. Jun Fan

#### Experimental Catalog Description

Introduction and discussion of advanced signal and power integrity design issues including high-frequency measurement and calibration, via modeling and design in multilayer printed circuit board, equalization and PAM in channel analysis, power supply induced jitter, through-silicon-via (TSV) and 3D packaging, as well as die-package-PCB PDN design. Latest dev

Prerequisites Elec Eng 5620 or Comp Eng 5620

Field Trip Statement n/a

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

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

#### Approval Path

1. 02/19/15 9:47 am  
daryl: Approved for RELECENG Chair
2. 02/19/15 9:49 am  
kleb6b: Approved for CCC Secretary
3. 03/02/15 9:41 am  
sraper: Approved for Engineering DSCC Chair
4. 03/05/15 3:50 pm  
kleb6b: Approved for Pending CCC Agenda post

Justification for new course: Modern electronic systems and devices are operating at increasingly high speed. Many of the design issues for signal and power integrity are not covered in any existing courses, creating a gap for students interested in high-speed hardware design. Further, the preceding course (EE/CpE 5620) can only cover some of the fundamental concepts in the field due to limited time. This proposed course will show students the applications of the concepts in solving the real-world engineering problems, with the latest research outcomes incorporated. Students will gain hands-on experience and skills from course projects.

Semester(s) previously taught none

Co-Listed Courses:

Course Reviewer Comments

Key: 4193

## Course Inventory Change Request

### New Experimental Course Proposal

Date Submitted: 01/06/15 3:51 pm

Viewing: **GEOLOGY 5001.TBD : Lidar Principles and Application**

File: 4167

Last edit: 03/06/15 12:13 pm

Changes proposed by: kleb6b

Requested Fall 2015

Effective Change

Date

Department Geosciences and Geological and Petroleum Engineering

Discipline Geology (GEOLOGY)

Course Number 5001

Topic ID TBD

Experimental Title Lidar Principles and Application

Experimental Lidar

Abbreviated

Course Title

Instructors Emmitt C. Witt III

Experimental

Catalog

Description

This course will provide a comprehensive understanding of light detection and ranging (lidar) technology as it has been developed for commercial use; the various methods of deploying the technology for collection of data for mapping, engineering and science; and application of the data using specialized software that is capable of viewing and editing.

Prerequisites Senior or graduate standing.

Field Trip

Statement

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

Justification for To fill a need for education on light detection and ranging technology. This is a newer

#### In Workflow

1. RGEOENG Chair

2. CCC Secretary

3. Sciences DSCC Chair

4. Pending CCC Agenda post

5. CCC Meeting Agenda

6. Campus Curricula Committee Chair

7. Registrar

#### Approval Path

1. 01/16/15 9:46 am  
reflori: Approved for RGEOENG Chair

2. 01/16/15 4:08 pm  
kleb6b: Approved for CCC Secretary

3. 03/06/15 12:13 pm

imorgan:  
Approved for Sciences DSCC Chair

4. 03/06/15 1:13 pm  
kleb6b: Approved for Pending CCC Agenda post

new course: technology that is being exploited by applied sciences and engineering. Currently there is no offering of this nature on the MS&T campus.

Semester(s) None - new experimental course  
previously taught

Co-Listed  
Courses:

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Course Reviewer **imorgan (01/27/15 11:09 am)**: Prerequisites edited based on departmental request.  
Comments **imorgan (03/06/15 12:13 pm)**: Number changed from 6001 to 5001 based on DSCC comments and departmental OK. DSCC wondered whether it would be appropriate to include course prerequisites.

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Key: 4167



# Course Inventory Change Request

## New Experimental Course Proposal

Date Submitted: 02/06/15 12:24 pm

Viewing: **MECH ENG 6001.TBD : Adaptive Control of Mechanical and Aerospace Systems**

File: 4183

Last edit: 02/06/15 12:24 pm

Changes proposed by: nisbett

Requested	Fall 2015
Effective Change Date	
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	6001
Topic ID	TBD
Experimental Title	Adaptive Control of Mechanical and Aerospace Systems
Experimental Abbreviated Course Title	Adaptive Control
Instructors	Dr. Tansel Yucelen

Experimental Catalog Description	<p>This course is designed to introduce students to the basics of adaptive control theory and its current state of the art. Throughout the course both synthesis and analysis of adaptive control laws for mechanical and aerospace systems will be presented based on stability, robustness, and performance considerations.</p>				
Prerequisites	Mech Eng 5481 or Aero Eng 5481, or an equivalent course on linear systems theory				
Field Trip Statement	None				
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3

Justification for      This is an important advanced controls topic in the mechanical and aerospace fields.

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

- Approval Path
1. 02/06/15 1:36 pm  
drallmei:  
Approved for RMECHENG Chair
  2. 02/06/15 2:09 pm  
kleb6b: Approved for CCC Secretary
  3. 02/17/15 10:08 am  
sraprer: Approved for Engineering DSCC Chair
  4. 03/05/15 3:52 pm  
kleb6b: Approved for Pending CCC Agenda post

new course:

This course is to be co-listed with Aero Eng 6001, which is submitted on a separate form (since the co-list option on this form didn't allow it to be added.)

Semester(s)      None  
previously taught

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 4183