



Campus Curricula Committee Meeting Agenda

October 27, 2015

12:30-2:00 p.m., 106B Parker Hall

Review of submitted Degree Change forms:

File #150.25 Chemical Engineering: Chemical Engineering BS
File #38.5 Economics: Economics BA
File #39.8 Economics: Economics BS

Review of submitted Course Change forms:

File #191.1 Aerospace Engineering 4885: Assessment
File #4252 Chemical Engineering 4230: Bioprocess Safety
File #4253 Chemical Engineering 5230: Bioprocess Safety
File #4257 Civil Engineering 6801: Advanced Concrete Science and Technology
File #1968.1 Music 3251: History and Analysis of Music I
File #1656.1 Music 3252: History and Analysis of Music II
File #427.1 SP&M S 3275: Foundations of Media Communication
File #556.1 Systems Engineering 5101: System Engineering and Analysis
File #1433.1 Systems Engineering 5211: Computational Intelligence
File #484.1 Systems Engineering 5212: Introduction to Neural Networks and Applications
File #347.1 Systems Engineering 6102: Information Based Design
File #1367.1 Systems Engineering 6103: Economic Analysis for Systems Engineering
File #2194.1 Systems Engineering 6104: Systems Architecting
File #1292.1 Systems Engineering 6105: Complex Engineering Systems Project Management
File #2173.1 Systems Engineering 6196: Systems Engineering Capstone
File #1779.1 Systems Engineering 6239: Smart Engineering System Design
File #2161.1 Systems Engineering 6321: Modeling Complex Systems
File #1108.1 Systems Engineering 6542: Model Based Systems Engineering

Review of submitted Experimental Course forms:

File #4256 Art 3001.001: Introduction to Digital Video
File #4249 Civil Engineering 6001.001: Advanced Masonry Structural Design
File #4263 Civil Engineering 6001.003: Concrete Durability and Repair
File #4260 Computer Science 2001.002: Contemporary Programming Languages (listed as 1001.002)
File #4261 Electrical Engineering 6001.001: Power System Protection II
File #4251 Engineering Management 6001.001: Statistical Modeling and Data Analysis for Financial Engineering
File #4264 IS&T 5001.002: Data Methodologies in Python
File #4254 Petroleum Engineering 6001.001: Advanced Mechanical Earth Modeling

Program Change Request

Date Submitted: 09/21/15 10:35 am

Viewing: **CH ENG-BS : Chemical Engineering BS**

File: 150.25

Last approved: 07/15/15 9:47 am

Last edit: 10/05/15 10:05 am

Changes proposed by: marlene

Catalog Pages

Using this

Program

[Chemical & Biochemical Engineering](#)

Start Term	Fall 2016 2015
Program Code	CH ENG-BS
Department	Chemical and Biochemical Engineering
Title	

In Workflow

1. **RCHEMENG 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. kristyg

Approval Path

1. 09/23/15 3:30 pm
aldahhanm:
Approved for
RCHEMENG Chair
2. 09/24/15 8:19 am
Kaylon Buckner
(kleb6b): Approved
for CCC Secretary
3. 10/05/15 10:10 am
srafer: Approved
for Engineering
DSCC Chair

History

1. Mar 18, 2014 by
lahne
2. May 2, 2014 by
lahne
3. Jan 30, 2015 by
Kaylon Buckner
(kleb6b)
4. Jul 15, 2015 by
pantaleoa
5. Jul 15, 2015 by
pantaleoa

Chemical Engineering BS

Program Requirements and Description

Bachelor of Science Chemical Engineering

Entering freshmen desiring to study chemical engineering will be admitted to the Freshman Engineering Program. They will be permitted, if they wish, to state a chemical 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 chemical engineering a minimum of **130** ~~129~~ 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 chemical 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 [ENGLISH 1120](#). The history course is to be selected from [HISTORY 1200](#), [HISTORY 1300](#), [HISTORY 1310](#), or [POL SCI 1200](#). The economics course may be either [ECON 1100](#) 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 1000 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 3000 level or above. 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 chemical 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 are presented and discussed through classroom and laboratory instruction.

Free Electives Footnote:

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

Freshman Year			
First Semester	Credits	Second Semester	Credits

FR ENG 1100	1	MECH ENG 1720	3
CHEM 1310	4	CHEM ENG 1100 , or COMP SCI 1970 <i>and</i> COMP SCI 1980 , or COMP SCI 1971 <i>and</i> COMP SCI 1981 , or COMP SCI 1570 <i>and</i> COMP SCI 1580 ⁵	3
CHEM 1319	1	CHEM 1320	3
ENGLISH 1120	3	MATH 1215	4
HISTORY 1200 , or 1300 , or 1310 , or POL SCI 1200	3	PHYSICS 1135	4
MATH 1214	4		
CHEM 1100	1		
	17		17
Sophomore Year			
First Semester	Credits	Second Semester	Credits
CHEM ENG 2100 ¹	3	CHEM ENG 2310 ⁴	1
CHEM 2210	4	CHEM ENG 2110 ¹	3
ECON 1100 or 1200	3	CHEM ENG 2300	3
MATH 2222	4	Humanities or Social Science Electives ²	3
PHYSICS 2135	4	Humanities or Social Science Elective ²	3
		MATH 3304	3
	18		16
Junior Year			
First Semester	Credits	Second Semester	Credits
CHEM ENG 3100	3	CHEM ENG 4100 ⁴	2
CHEM ENG 3110	2	CHEM ENG 3130	3
CHEM ENG 3120	3	CHEM ENG 3140	3
CHEM 3410	3	CHEM ENG 3160	3
Humanities or Social Science Elective ²	3	Chem & Lab Elective ⁶	4
Humanities or Social Science Elective ²	3		
	17		15
Senior Year ³			
First Semester	Credits	Second Semester	Credits
CHEM ENG 4130 ⁴	3	CHEM ENG 4096	2
CHEM ENG 4110	3	CHEM ENG 4140	3
CHEM ENG 4120 ⁴	1	CHEM ENG 4097 ⁴	3
CHEM ENG 3150	3	CHEM ENG 5XXX-Chem Eng Elective ⁷	3
CHEM ENG 5XXX-Chem Eng Elective ⁷	3	Free Electives ⁸	3

Free Electives ⁸	3	
	16	14
Total Credits: 130		

Note: The minimum number of hours required for a degree in chemical engineering is **130. 129.**

A cumulative grade point average of **2.50 2.25** or better **and is required for admittance as a "C" or better in math, chemistry and physics are required to be admitted into the** chemical engineering major.

1	A grade of "C" or better is required in Chem Eng 2100 & Chem Eng 2110 in order to enroll in Chem Eng 3120 .
2	From approved list published on the website of undergraduate studies. The prerequisites for the upper level course must be completed with a passing grade.
3	Prior to graduation, all chemical engineering majors must take the fundamentals of engineering exam (See assessment requirements, major field). A passing grade is not required to earn a degree, however it is the first step toward becoming a registered professional engineer.
4	Communications emphasized course (See bachelor of science degree, general education communications requirement).
5	COMP SCI 1570 and COMP SCI 1580 are 4 credits total.
6	CHEM 2510 or CHEM 2220 and CHEM 2289 or CHEM 3430 and CHEM 3419 or CHEM 4610 and CHEM 4619 or BIO SCI 2213 and BIO SCI 2219 . CHEM 4610 and CHEM 4619 are 5 credits total.
7	Any CHEM ENG 5XXX class, CHEM ENG 4150 , CHEM ENG 4210 , CHEM ENG 4300 , or CHEM ENG 4310 but only one of CHEM ENG 4000 , CHEM ENG 4099 or CHEM ENG 4099H can be used to fulfill this requirement.
8	Each student is required to take six credit 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. ELEC ENG 2800 is recommended for preparation for fundamentals of engineering exam.

Chemical Engineering Biochemical Engineering Emphasis

Freshman Year			
First Semester	Credits	Second Semester	Credits
FR ENG 1100	1	MECH ENG 1720	3
CHEM 1310	4	CHEM ENG 1100 , or COMP SCI 1970 and COMP SCI 1980 , or COMP SCI 1971 and COMP SCI 1981 , or COMP SCI 1570 and COMP SCI 1580 ⁵	3
CHEM 1319	1	CHEM 1320	3
ENGLISH 1120	3	MATH 1215	4
HISTORY 1200 , or 1300 , or 1310 , or POL SCI 1200	3	PHYSICS 1135	4
MATH 1214	4		
CHEM 1100	1		

17		17	
Sophomore Year			
First Semester	Credits	Second Semester	Credits
BIO SCI 2213	3	BIO SCI 3313	3
BIO SCI 2219	1	BIO SCI 3319	2
CHEM ENG 2100 ¹	3	CHEM ENG 2110 ¹	3
CHEM 2210	4	CHEM ENG 2300	3
MATH 2222	4	CHEM 2220	4
PHYSICS 2135	4	CHEM 2289	1
		MATH 3304	3
19		19	
Junior Year			
First Semester	Credits	Second Semester	Credits
BIO SCI 4323	3	CHEM ENG 2310 ⁴	1
BIO SCI 4329	2	CHEM ENG 3130	3
CHEM ENG 3100	3	CHEM ENG 3160	3
CHEM ENG 3110	2	CHEM ENG 3200	3
CHEM ENG 3120	3	ECON 1100 or 1200	3
CHEM 3410	3	Humanities or Social Science Elective ²	3
14		16	
Senior Year ³			
First Semester	Credits	Second Semester	Credits
CHEM ENG 4110	3	CHEM ENG 4096	2
CHEM ENG 4120 ⁴	1	CHEM ENG 4210	3
CHEM ENG 4200 ⁴	2	CHEM ENG 4220 ⁴	3
CHEM ENG 3150	3	CHEM ENG 4097 ⁴	3
Humanities or Social Science Elective ²	3	Humanities or Social Science Elective ²	3
Humanities or Social Science Upper Level Elective ²	3	CHEM ENG 4230	1
15		15	
Total Credits: 132			

Note: The minimum number of hours required for a degree in chemical engineering with an emphasis in biochemical engineering is 132.

A cumulative grade point average of **2.50** ~~2.25~~ or better ~~and is required for admittance as a "C" or better in math, chemistry and physics are required to be admitted into the~~ chemical engineering major.

¹ A grade of "C" or better is required in Chem Eng 2100 & Chem Eng 2110 in order to enroll in Chem Eng 3120.

2	From approved list posted on the website of undergraduate studies. The prerequisites for the upper level course must be completed with a passing grade.
3	Prior to graduation, all chemical engineering majors must take the fundamentals of engineering exam (See assessment requirements, major field). A passing grade is not required to earn a degree, however, it is the first step toward becoming a registered professional engineer.
4	Communications emphasized course (See bachelor of science degree, general education communications requirement).
5	COMP SCI 1570 and COMP SCI 1580 are 4 credits total.

Justification for request

We added Chem Eng 1100 to the freshman year-first semester. We also added Chem Eng 4230 - Bioprocess Safety to senior year-second semester in the bioemphasis program.

We changed initially requirements to say "A cumulative grade point average of 2.50 or better and a "C" or better in math, chemistry and physics are required to be admitted into the chemical engineering major."

We corrected the footnotes.

Supporting Documents

Course Reviewer Comments

kleb6b (09/24/15 8:19 am): Update effective term

sraper (10/05/15 10:02 am): Changed grammar. Asking Registrar to

kleb6b (10/05/15 10:05 am): Changes per Dr. Raper

Program Change Request

Date Submitted: 09/04/15 1:51 pm

Viewing: **ECON-BA : Economics BA**

File: 38.5

Last approved: 07/20/15 10:47 am

Last edit: 10/06/15 10:48 am

Changes proposed by: marcys

Catalog Pages

Using this

Program

Economics

Start Term Fall **2016** ~~2015~~

Program Code ECON-BA

Department Economics

Title

In Workflow

1. **RECONOMI 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. kristyg

Approval Path

1. 09/08/15 10:51 am
gelles: Approved for
RECONOMI Chair
2. 09/08/15 10:53 am
Kaylon Buckner
(kleb6b): Approved
for CCC Secretary
3. 09/08/15 11:49 am
barryf: Approved for
Social Sciences
DSCC Chair
4. 09/11/15 9:04 am
Kaylon Buckner
(kleb6b): Approved
for Pending CCC
Agenda post

History

1. Aug 14, 2014 by
lahne
2. Jul 20, 2015 by
pantaleoa

Economics BA

Program Requirements and Description

Bachelor of Arts Economics

In addition to the general university requirements for a bachelor of arts degree, a student must complete:

1. [ECON 1100](#), [ECON 1200](#), [ECON 2100](#) and [ECON 2200](#) with a minimum grade of "C" in each.
2. At least 18 additional hours of economics electives, **at or** above the **2000 200**-level, with a minimum grade of "C" in each.
3. [BUS 1210](#); [ENG MGT 130](#) and [STAT 1115](#) [ENG MGT 131](#) and [STAT 1115](#); or [ECON 1300](#); and [ECON 2300](#). ~~ECON 1300; and ECON 2300.~~

Bachelor of Arts Economics (Secondary Education Emphasis Area)

You may earn a B.A. degree in economics from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with the emphasis area program. This program can be completed in four academic years and student teaching is arranged with public schools within 30 miles of the Rolla campus.

Students interested in this emphasis area should consult with the **minor** advisor ~~for economics~~ in the economics department.

In order to successfully complete this emphasis area, students must have at least a 22 ACT, maintain a cumulative GPA of at least 2.5, and attain at least a 2.5 GPA in all economics courses. Current Missouri S&T or transfer students who wish to pursue this emphasis area must meet both these GPA requirements to be accepted into the program. Students must also meet all requirements listed under the teacher education program of this catalog. Students who do not meet all the teacher certification requirements will not be eligible for the secondary education emphasis area, even if they have completed all course work.

A degree in this emphasis area requires 129 credit hours. The required courses are provided below. A minimum grade of "C" is required by the department in all mathematics and statistics courses counted toward this degree.

Communications Skills: 9 semester hours		
ENGLISH 1120	Exposition And Argumentation	3
ENGLISH 1160	Writing And Research	3
or ENGLISH 3560	Technical Writing	
SP&M S 1185	Principles Of Speech	3
SP&M S 1185	Principles Of Speech	3
Humanities: 6 semester hours		
Must include 6 hours from 2 of the following 3 areas: Art, Music or Theatre, Philosophy, Literature		6
Social Sciences: 12 semester hours		
HISTORY 1300	American History To 1877	3
or HISTORY 1310	American History Since 1877	
POL SCI 1200	American Government	3
PSYCH 1101	General Psychology	3

HISTORY 2110	World Regional Geography	3
Natural Sciences: 7 semester hours (including 1 lab)		
Physics or Geology w/Lab		4
BIO SCI 1113	General Biology	3
Mathematics: 3 semester hours		
MATH 1120	College Algebra	3-5
or MATH 1140	College Algebra	
or higher		
Professional Requirements: 26 semester hours		
EDUC 1040	Perspectives In Education	2
EDUC 1174	School Organization & Adm For Elementary & Secondary Teachers	2
EDUC 2216	Teaching Reading In Content Area	3
EDUC 2251	Historical Foundation Of American Education	3
EDUC 3280	Teaching Methods And Skills In The Content Areas	6
EDUC 4298	Student Teaching Seminar	1
PSYCH 2300	Educational Psychology	3
PSYCH 3311	Psychological & Educational Development Of The Adolescent	3
PSYCH 4310	Psychology Of The Exceptional Child	3
Clinical Experience: 16 semester hours		
EDUC 1104	Teacher Field Experience	2
EDUC 1164	Aiding Elementary, Middle And Secondary Schools	2
EDUC 4299	Student Teaching	12
Economics: 30 semester hours		
ECON 1100	Principles Of Microeconomics	3
ECON 1200	Principles Of Macroeconomics	3
ECON 2100	Intermediate Microeconomic Theory	3
ECON 2200	Intermediate Macroeconomic Theory	3
ECON 1300	Business And Economic Statistics I	3
or STAT 1115	Statistics For The Social Sciences I	
or STAT 3111	Statistical Tools For Decision Making	
or STAT 3113	Applied Engineering Statistics	
or STAT 3115	Engineering Statistics	
or STAT 3117	Introduction To Probability And Statistics	
ECON 2300	Economic and Business Applications	3
Econ Electives (3000 or 4000 level)		9
BUS 1210	Financial Accounting	3

Certification: 20 semester hours		
HISTORY 1100	Early Western Civilization	3
or HISTORY 1200	Modern Western Civilization	
HISTORY 2220	Making Of Modern Britain	3
or HISTORY 2222	The Making Of Modern France	
or HISTORY 2224	Making Of Modern Russia	
or HISTORY 2210	European Diplomatic History 1814 - Present	
or HISTORY 3120	Ancient Greece	
or HISTORY 3130	Medieval History I	
or HISTORY 3135	Medieval History II	
or HISTORY 3140	History Of Renaissance Thought	
or HISTORY 3230	Europe In The Age Of The French Revolution And Napoleon	
or HISTORY 3235	Foundations Of Contemporary Europe 1815-1914	
or HISTORY 3240	Contemporary Europe	
HISTORY 3320	Colonial America	3
or HISTORY 3325	Revolutionary America, 1754-1789	
or HISTORY 3340	Age Of Jefferson And Jackson	
or HISTORY 3345	Civil War And Reconstruction	
or HISTORY 3360	Recent United States History	
or HISTORY 3450	American Intellectual History II	
or HISTORY 3425	History Of The Old South	
or HISTORY 3426	History Of The Modern South	
or HISTORY 3430	History of the American West	
or HISTORY 3480	History Of Baseball	
or HISTORY 3440	20th Century Americans In Combat	
or HISTORY 3441	The United States In World War II	
or HISTORY 3442	The United States in Vietnam	
or HISTORY 3761	U.S. Diplomatic History to World War II	
or HISTORY 3762	American Diplomatic History Since World War II	
POL SCI 3760	The American Presidency	3

Justification for
request

Supporting
Documents

Course Reviewer

Comments

kleb6b (08/17/15 4:26 pm): Change effective term

barryf (08/19/15 12:35 pm): Rollback: In note 2, it references the "200" level. Should this be "2000" or "3000"? In the requirements, it references "200 or 300" level. What is expected there?

kleb6b (08/19/15 12:58 pm): Rollback: barryf (08/19/15 12:35 pm): Rollback: In note 2, it references the "200" level. Should this be "2000" or "3000"? In the requirements, it references "200 or 300" level. What is expected there?

barryf (09/01/15 8:31 am): Rollback: Sorry I missed it earlier, but the Econ Electives are specified as 200 or 300 level. I suspect they mean 3000 or 4000 level, but it should be fixed.

kleb6b (09/01/15 8:32 am): Rollback: Per Dr. Flachsbart:Econ Electives are specified as 200 or 300 level. I suspect they mean 3000 or 4000 level, but it should be fixed.

kleb6b (10/05/15 10:12 am): Updates per CCC Meeting

kleb6b (10/06/15 10:48 am): Update Note 3

Key: 38

[Preview Bridge](#)

Program Change Request

Date Submitted: 08/21/15 10:46 am

Viewing: **ECON-BS : Economics BS**

File: 39.8

Last approved: 05/28/15 10:51 am

Last edit: 10/06/15 10:49 am

Changes proposed by: marcys

Catalog Pages

Using this

Program

[Economics](#)

Start Term Fall **2016** ~~2015~~

Program Code ECON-BS

Department Economics

Title

In Workflow

1. **RECONOMI 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. kristyg

Approval Path

1. 08/21/15 11:47 am
gelles: Approved for
RECONOMI Chair
2. 08/21/15 11:55 am
Kaylon Buckner
(kleb6b): Approved
for CCC Secretary
3. 09/08/15 11:50 am
barryf: Approved for
Social Sciences
DSCC Chair
4. 09/11/15 9:04 am
Kaylon Buckner
(kleb6b): Approved
for Pending CCC
Agenda post

History

1. May 28, 2015 by
pantaleoa
2. May 28, 2015 by
pantaleoa

Economics BS

Program Requirements and Description

Bachelor of Science Economics

In Economics, the Bachelor of Science degrees consist of 120 credit hours. First, all undergraduate students in Economics are required to complete a prescribed General Education Requirements Core that corresponds to the recommendations of the Missouri State Coordinating Board for Higher Education and consists of 42 credit hours in the areas of Individual Expression, Natural Systems, and Human Institutions. In addition, all undergraduate students are required to complete a 39 credit hour core consisting of courses in Information Technology, Management, Quantitative Skills, and Communication Skills. A minimum grade of "C" is required for courses in both the Information Technology and the Management areas. Finally, each degree includes 19 credit hours of free electives.

The remaining 27 credit hours of the required 120 credit hours for the Economics degree are divided into a prescribed 18 credit hour degree core and 9 credit hours of specific degree electives. A minimum grade of "C" is required in these courses. The Economics degree requires courses in advanced Micro, Macro and Statistics. The electives for this degree consist of courses from areas such as Law and Economics, Money and Banking, Energy Economics and E-Commerce.

Freshman Year			
First Semester	Credits	Second Semester	Credits
ENGLISH 1120 ¹	3	PSYCH 1101	3
MATH 1140	3	MATH 1212	4
Free Electives	3	History	3
BIO SCI 1113 , or 2223 , or 2233 , or 2263	3	IS&T 1750	3
Lab w/Living or Physical Science Course	1	IS&T 1750	3
		ECON 1100 or 1200 ⁴	3
	13		16
Sophomore Year			
First Semester	Credits	Second Semester	Credits
BUS 1110	3	BUS 1210	3
SP&M S 1185	3	ECON 1100 or 1200 ⁴	3
SP&M S 1185	3	Chemistry, Geol, Ge Eng, or Physics	3
STAT 3111	3	ART 1180 , or 1185 , or MUSIC 1150 , or THEATRE 1190	3
IS&T 1551	3	Free Electives	3
IS&T 1551	3		
ENGLISH 1211 , or 1212 , or 1231 , or 1221 , or 1222 , or 2230 , or 1223	3		
	15		15

Junior Year			
First Semester	Credits	Second Semester	Credits
ENGLISH 1600	3	SP&M S 2181	3
FINANCE 2150	3	SP&M S 2181	3
ECON 2100 ⁴	3	ECON 2200 ⁴	3
POL SCI 1200	3	Emphasis Area Electives ²	9
ECON 2300	3		
	15		15
Senior Year			
First Semester	Credits	Second Semester	Credits
ENGLISH 2560	3	BUS 4980 ¹	2
Culture, Sociology, Religion ³	3	Free Electives	13
BUS 4970 ¹	4	ECON 4860	3
Emphasis Area Electives ²	9		
	15		16
Total Credits: 120			

¹ In-Major Writing Intensive

² Economics Emphasis Electives 18 hours of which 12 hours must be Economics to be selected from [ECON 2114](#), [ECON 3810](#), [ECON 3880](#) or at or above 3000 level Econ Lecture course and accumulate 6 hours from the following [PSYCH 4700](#), [PSYCH 4601](#), [PSYCH 4602](#) or any 3000 or 4000 level Business Lecture courses.

³ [ECON 3830](#), [ENGLISH 2242](#), [ENGLISH 2245](#), [ENGLISH 2410](#), [ENGLISH 3215](#), [ENGLISH 4290](#), Foreign Language Beyond Second Semester, [HISTORY 3321](#), [PHILOS 3225](#), [PHILOS 3235](#), [PHILOS 1175](#), [PHILOS 4340](#), Any Political Science, [PSYCH 4600](#), [PSYCH 4992](#), Any Sociology, [SP&M S 3235](#).

⁴ A Grade of "C" or better is required for [ECON 1100](#), [ECON 1200](#), [ECON 2100](#), [ECON 2200](#), and [ECON 2300](#).

Justification for request

The courses Bus 4970 and Bus 4980 are a Capstone sequence focused heavily on business students and business applications. Econ 4860 - Problems in Economic Policy is a Capstone course tailored more closely to the needs of economic majors. In particular, we will cover areas of economic research and problems associated with economic policy decisions.

Supporting Documents

Course Reviewer Comments

kleb6b (06/01/15 9:55 am): Rollback: Per request from Marcy Scott

kleb6b (06/01/15 3:35 pm): Rollback: Fix 3-digit course numbers in the footnotes

barryf (08/19/15 12:39 pm): Rollback: Footnote 2 references 200 and 300 level. What levels are appropriate under the new numbering scheme?

kleb6b (08/19/15 12:59 pm): Rollback: barryf (08/19/15 12:39 pm): Rollback: Footnote 2 references 200 and 300 level. What levels are appropriate under the new numbering scheme?

kleb6b (10/05/15 10:13 am): Update per CCC Meeting

kleb6b (10/06/15 10:49 am): Update Footnote 2

Key: 39

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/11/15 10:47 am

Viewing: **AERO ENG 4885 : Assessment**

File: 191.1

Last edit: 09/11/15 10:47 am

Changes proposed by: isaac

Programs
referencing this
course

[AE ENG-BS: Aerospace Engineering BS](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Mechanical & Aerospace Engineering

Discipline Aerospace Engineering (AERO ENG)

Course Number 4885

Title

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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 09/11/15 11:41 am
drallmei:
Approved for
RMECHENG Chair
2. 09/11/15 12:20 pm
Kaylon Buckner
(kleb6b):

Approved for CCC

Secretary

3. 09/24/15 9:01 am

scraper: Approved

for Engineering

DSCC Chair

Assessment

Abbreviated Course Title	Assessment
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Catalog

Description

This course is an overview and assessment of the required aerospace engineering courses that the students took.

Prerequisites

Aero Eng 3171, Aero Eng 3361, Aero Eng 4535, Aero Eng 4253.

Field Trip

Statement

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

Total: 1

Required for Majors	Yes No
------------------------	-------------------

Elective for Majors	No
------------------------	----

Justification for
change:

This was originally intended to be graded Pass/Fail, but was not explicitly stated when the form was prepared.

Semesters
previously

offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 191

[Preview Bridge](#)

Course Inventory Change Request

New Course Proposal

Date Submitted: 09/23/15 12:02 pm

Viewing: **CHEM ENG 4230 : Bioprocess Safety**

File: 4252

Last edit: 09/23/15 12:02 pm

Changes proposed by: marlene

Programs
referencing this
course

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

Requested Fall 2016

Effective Change
Date

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 4230

Title

In Workflow

1. **RCHEMENG 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. 09/23/15 3:30 pm
aldahhanm:
Approved for
RCHEMENG Chair
2. 09/24/15 8:19 am
Kaylon Buckner
(kleb6b):
Approved for CCC
Secretary

3. 10/05/15 9:50 am
craper: Approved
for Engineering
DSCC Chair

Bioprocess Safety

Abbreviated Bioprocess Safety

Course Title

Catalog

Description

This course covers a risk assessment, biohazard containment and inactivation practices, and other- biosafety issues relevant to industrial bioprocessing.

Considerations relating to the release of genetically modified organisms are also discussed.

Prerequisites

Preceded or accompanied by Chem Eng 4210.

Field Trip

Statement

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

Total: 1

Required for	Yes
--------------	-----

Majors

Elective for	No
--------------	----

Majors

Justification for

new course:

We are offering a new biosafety class because our Biochemical Engineering Emphasis Program does not include a chemical safety class that constitutes a weakness in our program that will be resolved with this class. This class is a new class attached to a DC form.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

kleb6b (09/23/15 11:59 am): Rollback: Rollback per Marlene's request

Key: 4252
[Preview Bridge](#)

Course Inventory Change Request

New Course Proposal

Date Submitted: 09/21/15 11:13 am

Viewing: **CHEM ENG 5230 : Bioprocess Safety**

File: 4253

Last edit: 09/21/15 11:13 am

Changes proposed by: marlene

Requested Fall 2016

Effective Change

Date

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 5230

Title

In Workflow

1. **RCHEMENG 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. 09/23/15 3:31 pm
aldahhanm:
Approved for
RCHEMENG Chair
2. 09/24/15 8:19 am
Kaylon Buckner
(kleb6b):
Approved for CCC
Secretary

3. 10/05/15 9:50 am
sraper: Approved
for Engineering
DSCC Chair

Bioprocess Safety

Abbreviated Bioprocess Safety

Course Title

Catalog

Description

This course covers a risk assessment, biohazard containment and inactivation practices, and other- biosafety issues relevant to industrial bioprocessing.

Considerations relating to the release of genetically modified organisms are also discussed.

Prerequisites

Graduate level standing only.

Field Trip

Statement

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

Total: 1

Required for Majors	No
------------------------	----

Elective for Majors	No
------------------------	----

Justification for new course:

This is an technical elective class bioprocess safety for all graduate students across campus.

Semesters
previously

offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 4253
[Preview Bridge](#)

Course Inventory Change Request

New Course Proposal

Date Submitted: 09/29/15 11:26 am

Viewing: **CIV ENG 6801 : Advanced Concrete Science and Technology**

File: 4257

Last edit: 10/09/15 2:32 pm

Changes proposed by: brackenl

Requested Spring 2016

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Civil Engineering (CIV ENG)

Course Number 6801

Title

In Workflow

1. **RCIVILEN 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. 10/06/15 10:19 am
Douglas Carroll (doug):
Approved for RCIVILEN Chair
2. 10/06/15 10:38 am
Kaylon Buckner

(kleb6b):

Approved for CCC

Secretary

3. 10/09/15 2:07 pm

craper: Approved

for Engineering

DSCC Chair

Advanced Concrete Science and Technology

Abbreviated Advanced Concrete
Course Title

Catalog

Description

The course covers advanced notions of concrete science and technology. It discusses various aspects related to cement manufacturing, cement hydration and microstructure, use of supplementary cementitious materials and chemical admixtures, rheology and workability, mechanical properties, dimensional stability, durability, and sustainability of concrete.

Prerequisites

Civ Eng 5113 or equivalent; or consent of the instructor with Graduate Standing.

Field Trip

Statement

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

Total: 3

Required for No
Majors

Elective for No
Majors

Justification for
new course:

CE6801 is a necessary course for graduate students working in the area of construction materials. It is a basic course for other disciplines that are part of the Best-in-the-Class initiative on Advanced Materials for Sustainable Infrastructure.

Semesters

previously
offered as an
experimental
course

spring 2012, 2013, and 2015

Co-Listed

Courses:

ArchE 6801, Advanced Concrete Science and Technology - **Course Not Found**

Course Reviewer

Comments

kleb6b (10/09/15 2:32 pm): Create co-listed Arch Eng 6801

Key: 4257

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/30/15 1:01 pm

Viewing: **MUSIC 3251 : History And Analysis Of Music I**

File: 1968.1

Last edit: 09/30/15 1:18 pm

Changes proposed by: denises

Other Courses
referencing this
course

In The Prerequisites:

[MUSIC 3252 : History And Analysis Of Music II](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Arts, Languages, & Philosophy

Discipline Music (MUSIC)

Course Number 3251

Title

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. 09/30/15 1:15 pm
lance: Approved
for RPHILOSO
Chair
2. 09/30/15 1:18 pm
Kaylon Buckner
(kleb6b):
Approved for CCC

Secretary

3. 10/01/15 9:12 am

dewittp:

Approved for Arts

& Humanities

DSCC Chair

History And Analysis Of Music I

Abbreviated Hist & Analysis Of Mus I
Course Title

Catalog

Description

General survey of history of music from Greek period to 18th century. Score reading required.

Prerequisites

~~Music 2162.~~

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:

Pre-req is no longer needed for this class

Semesters

previously

offered as an

experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 1968
[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/30/15 1:03 pm

Viewing: **MUSIC 3252 : History And Analysis Of Music II**

File: 1656.1

Last edit: 09/30/15 1:18 pm

Changes proposed by: denises

Requested	Spring 2016 Fall 2014
Effective Change Date	
Department	Arts, Languages, & Philosophy
Discipline	Music (MUSIC)
Course Number	3252
Title	

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. 09/30/15 1:15 pm
lance: Approved for RPHILOSO Chair
2. 09/30/15 1:18 pm
Kaylon Buckner (kleb6b):
Approved for CCC

Secretary

3. 10/01/15 9:13 am

dewittp:

Approved for Arts
& Humanities

DSCC Chair

History And Analysis Of Music II

Abbreviated Hist & Analysis Mus II

Course Title

Catalog

Description

General survey of history of music from the 18th century to the present. Score reading required.

Prerequisites

~~Music 3251.~~

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

No

Majors

Justification for

change:

Pre-req is no longer needed for this class

Semesters

previously

offered as an

experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 1656
[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/30/15 3:53 pm

Viewing: **SP&M S 3275 : Foundations of Media Communication**

File: 427.1

Last edit: 10/01/15 8:08 am

Changes proposed by: denises

Programs
referencing this
course

[COMM ST-MI: Communication Studies Minor](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Arts, Languages, & Philosophy

Discipline Speech & Media Studies (SP&M S)

Course Number 3275

Title

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. 09/30/15 4:06 pm
lance: Approved for RPHILOSO Chair
2. 10/01/15 8:09 am
Kaylon Buckner (kleb6b):
Approved for CCC

Secretary

3. 10/01/15 9:21 am

dewittp:

Approved for Arts

& Humanities

DSCC Chair

Foundations of Media Communication

Abbreviated	Foundations of Media
Course Title	Commun

Catalog

Description

The course explores the historical, social, and psychological impact of media through study and practice of academic and non-academic theories of effective media communication. The course supplies an integrated critical framework for application in student's day-to-day consumption of media.

Prerequisites

Sp&M S 1185.

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:

Would like to create Art 3275 as a co-listed course

Semesters

previously
offered as an
experimental
course

Co-Listed

Courses:

Art 3275-- Course Not Found

Course Reviewer

Comments

Key: 427

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 11:29 am

Viewing: **SYS ENG 5101 : System Engineering and Analysis ↓**

File: 556.1

Last edit: 10/09/15 7:42 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Civil, Architectural, and Environmental Engineering
Systems Engineering](#)

Programs
referencing this
course

[CV ENG-MS: Civil Engineering MS](#)
[SYS EN-PHD: Systems Engineering PhD](#)
[SYS ENG-MS: Systems Engineering MS](#)

Other Courses
referencing this
course

In The Prerequisites:
[SYS ENG 6102 : Information Based Design](#)
[SYS ENG 6103 : Economic Analysis for Systems Engineering](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change

In Workflow

1. **RENGMNGT
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. 09/24/15 1:45 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:07 pm
Kaylon Buckner
(kleb6b):

Date
Department Engineering Management and Systems Engineering
Discipline Systems Engineering (SYS ENG)
Course Number 5101
Title

Approved for CCC
Secretary
3. 10/09/15 2:07 pm
craper: Approved
for Engineering
DSCC Chair

System Engineering and Analysis †

Abbreviated System Engineering & Analy †
Course Title

Catalog

Description

The concepts of Systems Engineering are introduced through a project. Students work in virtual teams. The topics covered are architecture development, basic system architectural design techniques, functional decomposition, design and technical review objectives, and initial specifications.

Prerequisites

Graduate Standing. ~~Graduate or senior standing.~~

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:

The name of the course System Engineering and Analysis II is changed. Course is intended for graduate students only.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 556

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 1:28 pm

Viewing: **SYS ENG 5211 : Computational Intelligence**

File: 1433.1

Last edit: 10/09/15 7:43 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Other Courses
referencing this
course

In The Catalog Description:

[COMP ENG 5310 : Computational Intelligence](#)

[ELEC ENG 5310 : Computational Intelligence](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

Course Number 5211

Title

In Workflow

1. **RENGMNGT 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. 09/24/15 1:45 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:07 pm
Kaylon Buckner
(kleb6b):

Approved for CCC

Secretary

3. 10/09/15 2:07 pm

scraper: Approved

for Engineering

DSCC Chair

Computational Intelligence

Abbreviated Computational Intelligence

Course Title

Catalog

Description

Introduction to Computational Intelligence (CI), Biological and Artificial Neuron, Neural Networks, Evolutionary Computing, Swarm Intelligence, Artificial Immune Systems, Fuzzy Systems, and Hybrid Systems. CI application case studies covered include digital systems, control, power systems, forecasting, and time-series predictions.

Prerequisites

Graduate Standing. ~~Comp Sci 1510 or programming competency.~~

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:

This is a engineering graduate course

Semesters
previously
offered as an
experimental
course

Co-Listed

Courses:

ELEC ENG 5310 - Computational Intelligence
COMP ENG 5310 - Computational Intelligence

Course Reviewer
Comments

Key: 1433

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 12:25 pm

Viewing: **SYS ENG 5212 : Introduction to ~~Te~~
Neural Networks and ~~&~~-Applications**

File: 484.1

Last edit: 10/09/15 2:39 pm

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Other Courses
referencing this
course

In The Catalog Description:

[ELEC ENG 5370 : Introduction To Neural Networks &
Applications](#)

In The Prerequisites:

[SYS ENG 6213 : Advanced Neural Networks](#)
[SYS ENG 6239 : Smart Engineering System Design](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

Course Number 5212

In Workflow

1. **RENGMNGT**
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. 09/24/15 1:46 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:07 pm
Kaylon Buckner
(kleb6b):

Title

Approved for CCC

Secretary

3. 10/09/15 2:07 pm

craper: Approved

for Engineering

DSCC Chair

Introduction **to** ~~To~~ Neural Networks **and** ~~&~~ Applications

Abbreviated

Intro **to** ~~To~~ Neurl Netwk&App

Course Title

Catalog

Description

The course provides an introduction to basic neural network architectures and their applications. Students learn to construct neural networks and train them to solve engineering problems, specifically pattern recognition and function approximation. Mathematical analysis of network architectures, training algorithms and practical applications of neural nets. ~~Introduction to artificial neural network architectures, adaline, madaline, back-propagation, BAM, and Hopfield memory, counterpropagation networks, self-organizing maps, adaptive resonance theory, are the topics covered. Students experiment with the use of artificial neural networks in engineering through semester projects.~~

Prerequisites

Graduate Standing. ~~Math 3304 or 3329; graduate standing.~~

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

No

Majors

Justification for
change:

Prerequisite is no longer needed.

Semesters
previously
offered as an
experimental
course

Co-Listed

Courses:

ELEC ENG 5370 - Introduction To Neural Networks & Applications

Course Reviewer

Comments

Key: 484

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 11:22 am

Viewing: **SYS ENG 6102 : Information Based Design**
~~Systems Engineering Analysis II~~

File: 347.1

Last edit: 10/09/15 7:43 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Programs
referencing this
course

[SYS EN-PHD: Systems Engineering PhD](#)

[SYS ENG-MS: Systems Engineering MS](#)

Other Courses
referencing this
course

In The Prerequisites:

[SYS ENG 6104 : Systems Architecting](#)

[SYS ENG 6105 : Complex Engineering Systems Project Management](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

In Workflow

1. **RENGMNGT**
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. 09/24/15 1:46 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:07 pm
Kaylon Buckner
(kleb6b):

Department	Engineering Management and Systems Engineering
Discipline	Systems Engineering (SYS ENG)
Course Number	6102
Title	

Approved for CCC
Secretary
3. 10/09/15 2:07 pm
craper: Approved
for Engineering
DSCC Chair

Information Based Design ~~Systems Engineering Analysis II~~

Abbreviated	Information Based Design
Course Title	Systems Engr Analysis II

Catalog

Description

This course is an introduction to the use of common data analytical methods and analysis for the purpose of decision making during the design phase of engineering system development. Through the introduction to such analytical methodologies, the systems engineering tool belt is made more effective as it is the foundation to decision analysis. ~~This course uses customized case studies based on team projects from prior courses. Topics covered include physical and functional analysis, analysis and traceability of requirements and specifications, verification and validation, optimization, simulation, and trade studies.~~

Prerequisites

Graduate Standing. ~~Sys Eng 5101.~~

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:

The course no longer need Systems Engineering and Analysis I as prerequisite as the course name and description is changed. New course description and name reflect new tools and techniques developed and used which are based on information and decision making in systems engineering design.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

Key: 347

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 11:35 am

Viewing: **SYS ENG 6103 : Economic Analysis for
Systems Engineering**

File: 1367.1

Last edit: 10/09/15 7:43 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Programs
referencing this
course

[SYS EN-PHD: Systems Engineering PhD](#)

[SYS ENG-MS: Systems Engineering MS](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

Course Number 6103

Title

In Workflow

1. **RENGMNGT
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. 09/24/15 1:46 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:07 pm
Kaylon Buckner
(kleb6b):

Approved for CCC
Secretary
3. 10/09/15 2:07 pm
craper: Approved
for Engineering
DSCC Chair

Economic Analysis for Systems Engineering

Abbreviated Economic Analysis Sys Eng
Course Title

Catalog

Description

Methods of economic evaluation for engineering projects involving complex systems. Economic impacts on choosing system alternatives, life cycle costing, economic decisions involving risk and uncertainty, and engineering cost estimation for projects in government, defense, and commercial industries.

Prerequisites

Graduate Standing. ~~Sys Eng 5101.~~

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:

There is no need for SysEng 5101 as prerequisite as this course is used as one of the first course of Systems Engineering graduate certificate students take when they

enroll in summer semester and basic concepts of systems engineering are covered as introduction to the course. .

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 1367

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 11:52 am

Viewing: **SYS ENG 6104 : Systems Architecting**

File: 2194.1

Last edit: 10/09/15 7:44 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Programs
referencing this
course

[SYS EN-PHD: Systems Engineering PhD](#)

[SYS ENG-MS: Systems Engineering MS](#)

Other Courses
referencing this
course

In The Prerequisites:

[COMP ENG 6410 : Network Centric Systems](#)

[SYS ENG 6321 : Modeling Complex Systems](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

In Workflow

1. **RENGMNGT**
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. 09/24/15 1:47 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:07 pm
Kaylon Buckner
(kleb6b):

Course Number 6104

Title

Approved for CCC

Secretary

3. 10/09/15 2:07 pm

craper: Approved

for Engineering

DSCC Chair

Systems Architecting

Abbreviated Systems Architecting

Course Title

Catalog

Description

Tools ~~The objective of the course is to provide the basic tools~~ and concepts of architecting complex engineering systems. **Ambiguity** ~~Systems thinking, ambiguity~~ in **Systems Architecting** ~~system architecting, search as an architecting process,~~ ~~SysML~~ and **Fuzzy Systems; Search as an Architecting Process; Architecting Heuristics; DoDAF Architecting Framework, System of Systems Scoping and Attribute Selection; Assessing Architectures; Systems Aggregation, Partitioning; Systems Behavior Generation; System Science and Thinking, Cyber Physical Systems Network-Centric Architectures.**

Prerequisites

Graduate Standing. ~~Sys Eng 6102.~~

Field Trip

Statement

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

Total: 3

Required for No

Majors

Elective for No

Majors

Justification for

change:

Removing of the prerequisite allow graduate students from all disciplines to take this course. Course description is updated to reflect recent research findings and trends.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

Key: 2194

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 12:18 pm

Viewing: **SYS ENG 6105 : Complex Engineering
Systems Project Management**

File: 1292.1

Last edit: 10/09/15 7:40 am

Changes proposed by: dagli

Programs
referencing this
course

[SYS EN-PHD: Systems Engineering PhD](#)

[SYS ENG-MS: Systems Engineering MS](#)

Other Courses
referencing this
course

In The Prerequisites:

[SYS ENG 6196 : Systems Engineering Capstone](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

Course Number 6105

Title

In Workflow

1. **RENGMNGT
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. 09/24/15 1:47 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:08 pm
Kaylon Buckner
(kleb6b):

Approved for CCC

Secretary

3. 10/09/15 2:07 pm

craper: Approved

for Engineering

DSCC Chair

Complex Engineering Systems Project Management

Abbreviated Cmplx Eng Sys Proj Mngt

Course Title

Catalog

Description

The course topics include issues specific to distributed project management, team development, resource management, constraint planning, development of Integrated Master Schedule and Integrated Master Plan, monitoring technical performance, schedule, cost, and risk.

Prerequisites

Graduate Standing. ~~Sys Eng 6102.~~

Field Trip

Statement

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

Total: 3

Required for No

Majors

Elective for No

Majors

Justification for

change:

SysEng 6102 course name and content are changed.

Semesters

previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 1292

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 12:21 pm

Viewing: **SYS ENG 6196 : Systems Engineering
Capstone**

File: 2173.1

Last edit: 10/09/15 7:44 am

Changes proposed by: dagli

Programs
referencing this
course

[CV ENG-MS: Civil Engineering MS](#)

[SYS EN-PHD: Systems Engineering PhD](#)

[SYS ENG-MS: Systems Engineering MS](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

Course Number 6196

Title

In Workflow

1. **RENGMNGT
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. 09/24/15 1:47 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:08 pm
Kaylon Buckner
(kleb6b):

Approved for CCC
Secretary
3. 10/09/15 2:08 pm
craper: Approved
for Engineering
DSCC Chair

Systems Engineering Capstone

Abbreviated Sys Eng Capstone
Course Title

Catalog

Description

The topics covered are Systems Engineering Management Plan (SEMP), Systems Engineering processes, process re-engineering, standards, and systems engineering case studies. Students will apply the skills and theory that they mastered in previous five core courses to the analysis of assigned cases.

Prerequisites

Sys Eng **6105**. ~~6105 and 6104~~.

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:

SysEng 6104 content is modified. It is no ,longer needed as prerequisite

Semesters

previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 2173
[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 1:49 pm

Viewing: **SYS ENG 6239 : Smart Engineering
System Design**

File: 1779.1

Last edit: 10/09/15 7:44 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Programs
referencing this
course

[SYS EN-PHD: Systems Engineering PhD](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

Course Number 6239

Title

In Workflow

1. **RENGMNGT
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. 09/24/15 2:57 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:08 pm
Kaylon Buckner
(kleb6b):

Approved for CCC

Secretary

3. 10/09/15 2:08 pm

craper: Approved

for Engineering

DSCC Chair

Smart Engineering System Design

Abbreviated Smart Eng System Design

Course Title

Catalog

Description

This course covers the **tools, techniques and methods used in developing Flexible Intelligent Learning Architectures** ~~emerging approaches~~ for **system designing** of ~~smart engineering~~ systems **(SoS) and cyber physical architectures for complex systems (CPS)** through evolutionary **approach**. ~~acquisition, namely; adaptive architecture generation for family of systems, complexity theory, evolutionary programming, fuzzy logic, collaborative behavior, artificial life, and chaos.~~ **Meta-architecture generation algorithms, SoS and CPS architecture evaluation methods, executable architectures, many meta-architecture objectives trade**

Prerequisites

Graduate Standing. ~~Sys Eng 5212 or graduate standing.~~

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:

Change in course description reflects the current research done in this area in the department and DoD Systems Engineering Research Center, MITRE and MIT..

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

Key: 1779

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 1:33 pm

Viewing: **SYS ENG 6321 : Modeling Complex Systems** ~~Network-Centric Systems~~

File: 2161.1

Last edit: 10/06/15 10:34 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Programs
referencing this
course

[SYS EN-PHD: Systems Engineering PhD](#)

Other Courses
referencing this
course

In The Catalog Description:

[COMP ENG 6410 : Network Centric Systems](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

In Workflow

1. **RENGMNGT**
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. 09/24/15 1:47 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:08 pm
Kaylon Buckner
(kleb6b):

Course Number 6321

Title

Approved for CCC

Secretary

3. 10/09/15 2:08 pm

craper: Approved

for Engineering

DSCC Chair

Modeling Complex Systems ~~Network Centric Systems~~Abbreviated **Modeling Complex** ~~Network~~Course Title ~~Centric~~ Systems

Catalog

Description

Engineering Systems of today are non-linear, distributed, global, and adaptive to their environment in both space and time, thereby creating emergent behaviors.

~~Network-centric systems comprises a diverse category of complex systems with the primary purpose is providing network type services. Network-centric systems are also known as collaborative systems.~~ This course **covers** ~~address~~ the **current modeling tools intersection between network engineering and techniques used in modeling the needs of systems architecting and architecting these complex systems. engineering.**

Prerequisites

Graduate Standing. ~~Sys Eng 6104 or graduate standing.~~

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

No

Majors

Justification for

change:

Course name and description is adapted to current research findings and practices in this area.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

COMP ENG 6410 - Network Centric Systems

Course Reviewer

Comments

Key: 2161

[Preview Bridge](#)

Course Inventory Change Request

Date Submitted: 09/24/15 1:53 pm

Viewing: **SYS ENG 6542 : Model Based Systems Engineering**

File: 1108.1

Last edit: 10/06/15 10:35 am

Changes proposed by: dagli

Catalog Pages
referencing this
course

[Systems Engineering](#)

Other Courses
referencing this
course

In The Catalog Description:

[COMP SCI 6102 : Model Based Systems Engineering](#)

Requested **Spring 2016** ~~Fall 2014~~
Effective Change
Date

Department Engineering Management and Systems Engineering

Discipline Systems Engineering (SYS ENG)

Course Number 6542

Title

In Workflow

1. **RENGMNGT 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. 09/24/15 2:58 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/24/15 3:08 pm
Kaylon Buckner
(kleb6b):

Approved for CCC
Secretary
3. 10/09/15 2:08 pm
craper: Approved
for Engineering
DSCC Chair

Model Based Systems Engineering

Abbreviated Model Based Systems Eng
Course Title

Catalog

Description

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

Prerequisites

Graduate Standing. ~~Sys Eng 6541 or both a "C" or better grade in Comp Sci 3100 and instructor approval.~~

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:

Specific prerequisite of graduate standing.

Semesters
previously
offered as an
experimental
course

Co-Listed

Courses:

COMP SCI 6102 - Model Based Systems Engineering

Course Reviewer

Comments

Key: 1108

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/29/15 2:02 pm

Viewing: **ART 3001.001 : Introduction to Digital Video**

File: 4256

Last edit: 09/30/15 10:25 am

Changes proposed by: denises

Requested Spring 2016

Effective Change

Date

Department Arts, Languages, & Philosophy

Discipline Art (ART)

Course Number 3001

Topic ID 001

Experimental
Title

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. Registrar

Approval Path

1. 09/29/15 2:16 pm
lance: Approved for RPHILOSO Chair
2. 09/29/15 3:00 pm
Kaylon Buckner (kleb6b): Rollback to RPHILOSO Chair for CCC Secretary
3. 09/30/15 10:17 am
lance: Approved for RPHILOSO

Chair

4. 09/30/15 10:22

am

Kaylon Buckner

(kleb6b):

Approved for CCC

Secretary

5. 09/30/15 10:26

am

dewittp:

Approved for Arts

& Humanities

DSCC Chair

Introduction to Digital Video

Experimental IDV

Abbreviated

Course Title

Instructors Brad Rupert

Experimental

Catalog

Description

The purpose of this class is to allow students to explore their creative side by producing short videos/films using simple camera equipment and available computer programs. In producing the videos/films the students will also explore how this new skill set can be applied to their majors to produce promotional pieces for their design team and other projects.

Prerequisites

Field Trip

Statement

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

Total: 3

Justification for

new course:

This is to create the co-listed course SP&M S 3001

Semester(s)

previously taught

Co-Listed

Courses:

SP&M S 3001: Introduction to Digital Video - **Course Not Found**

Course Reviewer

Comments

kleb6b (09/29/15 3:00 pm): Rollback: Revise Co-Listing

kleb6b (09/29/15 3:01 pm): We needed to revise how the co-listing was added, this is the correct way to create a new co-listed course.

Key: 4256

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/20/15 1:53 pm

Viewing: **CIV ENG 6001.001 : Advanced
Masonry Structural Design**

File: 4249

Last edit: 10/06/15 10:36 am

Changes proposed by: elgawadym

Requested Spring 2016

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Civil Engineering (CIV ENG)

Course Number 6001

Topic ID 001

Experimental
Title

In Workflow

1. **RCIVILEN 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. 10/06/15 10:18
am
Douglas Carroll
(doug):
Approved for
RCIVILEN Chair
2. 10/06/15 10:36
am
Kaylon Buckner
(kleb6b):
Approved for CCC
Secretary
3. 10/09/15 2:07 pm
srafer: Approved
for Engineering

Advanced Masonry Structural Design

Experimental Avanced Masonry

Abbreviated

Course Title

Instructors Mohamed ElGawady

Experimental

Catalog

Description

This course covers advanced topics in masonry structures structural design including design of different types of masonry shear walls, prestressed masonry, AAC masonry, in-fill panels, performance-based design, and FRP retrofitting.

Prerequisites

Civ Eng 3201; Civ Eng 3220; Civ Eng 5270.

Field Trip

Statement

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

Total: 3

Justification for

new course:

Significant portion of the building stock in the US are built using masonry. This includes hospitals, schools, fire stations, hotels, etc. Furthermore, masonry is heterogeneous material including different constituent such as mortar, grout, block (brick), reinforcement, accessories. Masonry also can be built as part of the loading system, i.e., beams, columns, walls, or nonloading system such as veneer. Masonry can be built unreinforced, reinforced using bonded rebar, or prestressed. Hence, masonry design requires in-depth knowledge and extensive analysis. Currently, Missouri S&T offers a single design masonry course which focuses on masonry material and basic design requirements. Hence, a more advanced design course is required to cover more advanced design topics. It is worth noting that other

construction materials such as concrete and steel are extensively addressed at Missouri S&T. Missouri S&T offers three courses that covers structural design of concrete and several courses that covers concrete material behavior. Similarly, structural steel design is addressed in three different courses.

The Civil Engineering Department has the required expertise to cover this new course. Drs. Mohamed ElGawady and John Myers are active in masonry research and The Masonry Society (TMS). Dr. ElGawady is a board member of TMS. Dr. Myers is a former TMS board member and fellow of TMS. The industry showed a good faith in supporting such initiative. During the Fall of 2014, the local industry offered the required text book and masonry design code at a nominal fee of \$25 per student.

Semester(s)

previously taught

Fall 2014

Co-Listed

Courses:

Course Reviewer

Comments

Key: 4249

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 10/06/15 10:39 am

Viewing: **CIV ENG 6001.003 : Concrete
Durability and Repair**

File: 4263

Last edit: 10/09/15 7:41 am

Changes proposed by: brackenl

Requested Spring 2016

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Civil Engineering (CIV ENG)

Course Number 6001

Topic ID 003

Experimental
Title

In Workflow

1. **RCIVILEN 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. 10/06/15 11:06
am
Douglas Carroll
(doug):
Approved for
RCIVILEN Chair
2. 10/06/15 11:18
am
Kaylon Buckner
(kleb6b):
Approved for CCC
Secretary
3. 10/09/15 2:07 pm
srafer: Approved
for Engineering

Concrete Durability and Repair

Experimental Durability and Repair

Abbreviated

Course Title

Instructors Dr. Kamal Khayat

Experimental

Catalog

Description

The course discusses transport properties of cement-based materials and several of the physical and chemical mechanisms that can cause deterioration in concrete. It also discusses strategies to mitigate deterioration to enhance durability and service life of structures. Different repair materials, designs, and methods used in rehabilitation are presented.

Prerequisites

Civ Eng 5113 or equivalent; or consent of the Instructor with Graduate Standing.

Field Trip

Statement

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

Justification for
new course:

This is a necessary course for graduate students working in the area of construction materials. It is a basic course for other disciplines that are part of the Best-in-the-Class initiative on Advanced Materials for Sustainable Infrastructure.

Create co-list with ArchE.

Semester(s)
previously taught

None

Co-Listed

Courses:

Course Reviewer

Comments

Key: 4263

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/29/15 4:46 pm

Viewing: **COMP SCI 1001.002 : Contemporary**

Programming Languages

File: 4260

Last edit: 10/08/15 10:04 am

Changes proposed by: tauritzd

Requested Spring 2016

Effective Change

Date

Department Computer Science

Discipline Computer Science (COMP SCI)

Course Number 1001

Topic ID 002

Experimental

Title

In Workflow

1. RCOMPSCI 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. 09/29/15 8:35 pm

Sajal Das (sdas):

Approved for

RCOMPSCI Chair

2. 09/30/15 7:50 am

Kaylon Buckner

(kleb6b):

Approved for CCC

Secretary

3. 10/08/15 10:04

am

imorgan:

Approved for

Sciences DSCC

Chair

Contemporary Programming Languages

Experimental Contemporary Programming

Abbreviated

Course Title

Instructors TBD

Experimental

Catalog

Description

This course introduces students to a selection of contemporary programming languages, and their related developer tools, commonly used in academia and/or industry. The focus is on creating working competency through intensive programming projects.

Prerequisites

A grade of "B" or better in both Comp Sci 1570 and Comp Sci 1580.

Field Trip

Statement

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

Justification for

new course:

This course addresses a weakness identified by ABET in preparing our students to connect to application domains and use modern development methods. The "B" or better grade in both COMP SCI 1570 and COMP SCI 1580 is needed to ensure sufficient programming proficiency to handle this course's intensive programming projects.

NOTE: The intended course level is 2000, not 1000, but due to a flaw in CourseLeaf it won't let COMP SCI submit any new 2000-level experimental courses. Per instructions from the Registrar's Office, to avoid further delays in getting this form approved effective SP2016, it's being submitted as 1001, but please approve it as 2001 and as soon as CourseLeaf fixes the issue, the number will be changed to 2001.

Semester(s)

previously taught

None

Co-Listed

Courses:

Course Reviewer

Comments

imorgan (10/08/15 10:04 am): Approved by DSCC as Comp Sci 2001.

Key: 4260

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/30/15 8:45 am

Viewing: **ELEC ENG 6001.001 : Power System
Protection II**

File: 4261

Last edit: 10/01/15 8:08 am

Changes proposed by: dbenenat

Requested Spring 2016

Effective Change

Date

Department Electrical and Computer Engineering

Discipline Electrical Engineering (ELEC ENG)

Course Number 6001

Topic ID 001

Experimental
Title

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. 09/30/15 6:54 pm
Daryl Beetner
(daryl): Approved
for RELECENG
Chair
2. 10/01/15 8:08 am
Kaylon Buckner
(kleb6b):
Approved for CCC
Secretary
3. 10/09/15 2:07 pm
srafer: Approved
for Engineering
DSCC Chair

Power System Protection II

Experimental Power Sys Protection II

Abbreviated

Course Title

Instructors Paul Nauert

Experimental

Catalog

Description

Protective relaying advanced topics focusing on methods for generation and high voltage transmission systems; generator, motor, transformer, transmission line and bus protection; pilot protection and out of step relaying principles; and NERCPRC (Protective Relay and Control) reliability standard requirements.

Prerequisites

Elec Eng 6560 or equivalent, or consent of instructor.

Field Trip

Statement

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

Justification for

new course:

This course has been requested by several students. There is also a great need for relay engineers in the power industry.

Semester(s)

previously taught

n/a

Co-Listed

Courses:

Course Reviewer

Comments

Key: 4261

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/25/15 2:47 pm

Viewing: **ENG MGT 6001.001 : Statistical Modeling and Data Analysis for Financial Engineering**

File: 4251

Last edit: 10/06/15 10:23 am

Changes proposed by: qinr

Requested	Spring 2016
Effective Change	
Date	
Department	Engineering Management and Systems Engineering
Discipline	Engineering Management (ENG MGT)
Course Number	6001
Topic ID	001
Experimental	
Title	

In Workflow

1. **RENGMNGT**
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. 09/25/15 2:57 pm
Suzanna Long
(longsuz):
Approved for
RENGMNGT Chair
2. 09/28/15 8:12 am
Kaylon Buckner
(kleb6b):
Approved for CCC
Secretary
3. 10/09/15 2:07 pm
sraper: Approved
for Engineering
DSCC Chair

Statistical Modeling and Data Analysis for Financial Engineering

Experimental Stat & Data Anlys for FE

Abbreviated

Course Title

Instructors Ruwen Qin

Experimental

Catalog

Description

Statistical analysis of financial markets data (e.g., equity prices, exchange rates, and interest rates) using R. Statistical models and methods to include exploratory data analysis, univariate and multivariate distributions, regression, time series, principal component analysis and factor models, and Bayesian data analysis.

Prerequisites

Knowledge of calculus, vectors, matrices, probability, and statistics; fundamental knowledge of finance engineering and investment; some knowledge of computer programming is helpful. Graduate Standing.

Field Trip

Statement

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

Justification for

new course:

Students show great interest in hands-on experiences with statistical modeling and data analysis for financial markets using R (an open source software commonly used in various industries). With these experiences, students better prepare themselves for pursuing a career in financial engineering. The EMSE offers a Financial Engineering (FE) Certificate that is composed of four courses. This experimental course supplements the existing courses of FE certificate.

Semester(s)

previously taught

Co-Listed

Courses:

Course Reviewer

Comments

sraper (10/06/15 10:06 am): Changed wording of course description in consultation with Dr. Qin.

Key: 4251

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 10/07/15 12:28 pm

Viewing: **IS&T 5001.002 : Data Methodologies
in Python**

File: 4264

Last edit: 10/09/15 7:40 am

Changes proposed by: barryf

Requested Spring 2016

Effective Change

Date

Department Business and Information Technology

Discipline Info Science & Technology (IS&T)

Course Number 5001

Topic ID 002

Experimental
Title

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. Registrar

Approval Path

1. 10/07/15 9:52 pm
siauk: Approved
for RINFSCTE
Chair
2. 10/09/15 7:40 am
Kaylon Buckner
(kleb6b):
Approved for CCC
Secretary

Data Methodologies in Python

Experimental Data Methods in Python

Abbreviated

Course Title

Instructors Dr. Mike Hilgers

Experimental

Catalog

Description

Python methodologies for manipulating, processing, cleaning, grouping, slicing, reshaping and summarizing information in data-intensive applications; managing files, scraping web pages, mining social media; describing, modeling, analyzing, and visualizing data. Tools include pandas, NumPy, SciPy, and Matplotlib libraries.

Prerequisites

One of Stat 3111, Stat 3113, Stat 3115, Stat 3117 and either IS&T 1552 or Comp Sci 1510; for Graduate Students: Graduate Standing and Knowledge of Calculus, Statistics, and Programming.

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Justification for

new course:

Needed to complement other Big Data courses.

Semester(s)

previously taught

None

Co-Listed

Courses:

Course Reviewer

Comments

Key: 4264

[Preview Bridge](#)

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/25/15 10:02 am

Viewing: **PET ENG 6001.001 : Advanced Mechanical Earth Modeling**

File: 4254

Last edit: 10/09/15 7:42 am

Changes proposed by: nygaardr

Requested Fall 2016

Effective Change

Date

Department Geosciences and Geological and Petroleum Engineering

Discipline Petroleum Engineering (PET ENG)

Course Number 6001

Topic ID 001

Experimental
Title

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. Registrar

Approval Path

1. 09/25/15 10:04 am
ikuenobe:
Approved for RGEOENG Chair
2. 09/28/15 8:15 am
Kaylon Buckner (kleb6b):
Approved for CCC Secretary
3. 10/09/15 2:07 pm
sraper: Approved for Engineering DSCC Chair

Advanced Mechanical Earth Modeling

Experimental Advanced MEM

Abbreviated

Course Title

Instructors Andreas Eckert

Experimental

Catalog

Description

Introduction of advanced concepts required to generate 2D/3D Mechanical Earth Models. The course focus is the use of finite element models on simulating realistic in situ stress magnitudes. Course topics include pre-stressing, influence of topography, pore pressure and temperature fields, rheological laws, and coupled hydro-mechanical simulation.

Prerequisites

Pet Eng 4710, Pet Eng 4720.

Field Trip

Statement

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

Justification for

new course:

This is an graduate class in mechanical earth modeling which is specifically suitable for students that are interesting in conducting research in Mechanical earth modeling for petroleum engineers

Semester(s)

previously taught

FS2014

Co-Listed

Courses:

Course Reviewer

Comments

kleb6b (09/28/15 8:15 am): Clarify prerequisite? Both courses? Or either?

Key: 4254

[Preview Bridge](#)