Campus Curricula Committee Meeting Agenda
April 2, 2014
10:00 am, Room 106B Parker Hall

Review of submitted Degree Change forms:

File #153.1   Computer Engineering: Computer Engineering BS
File #142.1   Mathematics: Applied Mathematics BS

Review of submitted Course Change forms:

File #107.1   Biological Sciences 112/1219: General Biology Lab
File #1712.1   Biological Sciences 2372: Issues in Public Health
File #2278.1   Biological Sciences388/3483: Biomedical Problems
File #402.1   Computer Engineering 214: Digital Engineering Lab II
File #413.1   Computer Engineering 342: Real-Time Digital Signal Processing
File #414.1   Computer Engineering 345: Digital Image Processing
File #1981.1   Computer Engineering 347: Machine Vision
File #419.1   Computer Engineering 391: Computer Engineering Senior Project I
File #420.1   Computer Engineering 392: Computer Engineering Senior Project II
File #438.1   Computer Science 128: Discrete Mathematics for Computer Science
File #596.1   Electrical Engineering 391: Electrical Engineering Senior Project I
File #597.1   Electrical Engineering 392: Electrical Engineering Senior Project II
File #1176.1   Mining Engineering 343: Coal Mine Development and Production
File #1657.1   Mining Engineering 404: Advanced Mining Systems
File #1187.1   Mining Engineering 409: Mining Property Feasibility Studies and Evaluation Procedure

Review of submitted Experimental Course forms:

File #4046   Art 4320: French and Francophone Cinema
File #4047   Economics 345/4643: Ethical Problems in a Global Environment
File #4048   Economics 5643: Advanced Ethical Problems in a Global Environment
File #4055   Philosophy 101: Introduction to Ethics

Experimental Course Policy Review

Bachelor of Science Requirements

Program Change Request

Date Submitted: 01/29/14 6:10 pm

Viewing: CP ENG-BS : Computer Engineering BS

File: 153.1

Last edit: 02/10/14 12:38 pm

Changes proposed by: stanleyj

Catalog Pages
Using this
Program

  Computer Engineering

Start Term	**Spring 2014**
Program Code	CP ENG-BS
Department	Electrical and Computer Engineering
Title	

Approval Path

1. 01/30/14 9:58 am kte: Approved for RELECENG Chair
2. 02/04/14 8:27 am kleb6b: Approved for CCC Secretary
3. 02/10/14 12:38 pm sraper: Approved for Engineering DSCC Chair

Computer Engineering BS

Program Requirements and Description

Bachelor of Science Computer Engineering[1]

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 112 , HISTORY 175 , HISTORY 176 , or **Poly Sci 90.** The economics course may be either **Econ 121** or ECON 122 . 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 100 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 70 or 80 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 300 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 20 .
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 instruction.

Free Electives Footnote:

Each student is required to take 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**
FR ENG 10[2]	1	IDE 20	3
MATH 14[3]	4	MATH 15[3]	4
CHEM 1	4	PHYSICS 23[3,4]	4
CHEM 2	1	ECON 121 or ECON 122	3
HISTORY 112, or HISTORY 175, or HISTORY 176, or POL SCI 90	3	Elective-Hum or Soc (any level)[5]	3
ENGLISH 20	3		
	16		17
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
ELEC ENG 151[3,6,7]	3	COMP ENG 111[3,6,8]	3

ELEC ENG 152[3,6]	1	COMP ENG 112[3,6]	1
MATH 22[3]	4	ELEC ENG 153[3,7,9]	3
COMP SCI 53[3]	3	MATH 204[3]	3
COMP SCI 54[3]	1	COMP SCI 153[3]	3
PHYSICS 24[3,4]	4	COMP SCI 128[3]	3
	16		16

Junior Year

First Semester	Credits	Second Semester	Credits
COMP ENG 213[3,6,8]	3	COMP ENG Elective A[3,14]	3
COMP ENG 214[3,6,8]	1	ELEC ENG 215[3,6,9]	3
COMP ENG 215[3,8]	3	ELEC ENG 216[3,6,9]	1
ELEC ENG 121[3,6,7]	3	COMP SCI 284[3]	3
ELEC ENG 122[3,6,7]	1	STAT 217[12]	3
Mathematics Elective[10]	3	ENGLISH 160[13]	3
SP&M S 85	3		
	17		15

Senior Year

First Semester	Credits	Second Semester	Credits
COMP ENG 319 or COMP SCI 365[3]	3	COMP ENG Elective D[3,15,16]	3
COMP ENG Elective C[3,15,16]	3	COMP ENG Elective E[3,15,16]	3
COMP ENG 391[3,17]	1	COMP ENG 392[3,17]	3
Elective-Hum or Soc (any level)[5]	3	Elective-Hum or Soc (upper level)[5]	3
Free Elective[18]	2	Free Elective[18]	3
Engineering Science Elective [11]	3		
COMP ENG Elective B	**3**		
	16		15

Total Credits: 128

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 MATH 14, MATH 15, MATH 22, and MATH 204, PHYSICS 23, and PHYSICS 24 (or their equivalents), COMP SCI 53, COMP SCI 54, COMP SCI 153, COMP SCI 158, and COMP SCI 284, COMP ENG 111, COMP ENG 112, COMP ENG 213, COMP ENG 214, COMP ENG 215, COMP ENG 319, COMP ENG 365, COMP ENG 391, and COMP ENG 392, and ELEC ENG 151, ELEC ENG 152, ELEC ENG 153, ELEC ENG 121, ELEC ENG 122, ELEC ENG 215, and ELEC ENG 216, and the COMP ENG

electives A, B, C, and D. Also, students may not enroll in other courses that use these courses as prerequisites until the minimum grade of "C" is attained.

Comp Sci 365 will be renumbered as Comp Sci 4600 and Comp Sci 5600. Only Comp Sci 5600 can be taken in place of Comp Eng 319.

4	Students may take PHYSICS 21 and PHYSICS 22 or PHYSICS 21 and PHYSICS 27 in place of PHYSICS 23. Students may take PHYSICS 25 and PHYSICS 26 or PHYSICS 25 and PHYSICS 28 in place of PHYSICS 24.
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 prior to the last week to drop a class must also drop the corequisite lab.
7	Students must earn a passing grade on the ELEC ENG Advancement Exam I (associated with ELEC ENG 151) before they enroll in ELEC ENG 153 or ELEC ENG 121 and ELEC ENG 122.
8	Students must earn a passing grade on the COMP ENG Advancement Exam (associated with COMP ENG 111) before they enroll in any course with COMP ENG 111 and COMP ENG 112 as prerequisites.
9	Students must earn a passing grade on the ELEC ENG Advancement Exam II (associated with ELEC ENG 153) before they enroll in ELEC ENG 215 and ELEC ENG 216.
10	Students must take one of the following courses

Math 203, Math 208, Math 209, Math 302, Math 303, Math 305, Math 306, Math 307, Math 308, Math 309, Math 311, Math 315, Math 322, Math 325, Math 330, Math 337, Math 351, Math 354, Math 361, Math 383, Math 385, Stat 344, Stat 346, Stat 353.

11	Students must take IDE 140, MECH ENG 219, MECH ENG 227, PHYSICS 207, PHYSICS 208, CHEM 221, BIO SCI 211, or BIO SCI 231. The following pairs of course are substitutions for any single course: CIV ENG 50 and IDE 150, PHYSICS 107 and PHYSICS 311, PHYSICS 107 and CER ENG 284, PHYSICS 107 and NUC ENG 205, or ENG MGT 211 and ENG MGT 282.
12	Students may replace STAT 217 with STAT 215 or STAT 343.
13	Students may replace ENGLISH 160 with ENGLISH 60.
14	Cp Eng Elective A must be a 4xxx or 5xxx-level Cp Eng, El Eng, or Cmp Sc course with at least a 3-hour lecture component. This normally includes all Cp Eng and El Eng 4xxx or 5xxx-level courses except Cp Eng or El Eng 300, 390, 391, and 392 or Cmp Sc 300, 310, 365 (5600 only), and 390. Delete Elec Eng 38x exception.

15	Cp Eng Electives B, C, and D must be 3xxx, 4xxx or 5xxx-level courses from an approved list of science, mathematics, and engineering courses. In particular, this list includes all 3xxx, 4xxx or 5xxx-level Cp Eng, El Eng and Cmp Sc courses except required courses in Cp Eng, El Eng, and Cmp Sc and except Cp Eng 391 and 392, El Eng 281, 282, 283, 391, and 392, and Cmp Sc 202 and 365 (4600 and 5600). Cp Eng Electives B, C, and D must include at least six hours of engineering or computer science courses.
	Delete Cmp Sc 202 from this list. Cmp Sc 202 is not given in the Cmp Sc crosswalk table.
16	COMP ENG Electives B, C, and D cannot include more than three hours of COMP ENG 300 , COMP ENG 390 , ELEC ENG 300 , or ELEC ENG 390 .
17	Students pursuing dual degrees in COMP ENG and ELEC ENG may take either COMP ENG 391 or ELEC ENG 391 and COMP ENG 392 or ELEC ENG 392. Students may not receive credit for both COMP ENG 391 and ELEC ENG 391 or COMP ENG 392 and ELEC ENG 392 in the same degree program.
18	Students are required to take at least three credit hours. Elec Eng 28xx, ELEC ENG 391, ELEC ENG 392, COMP ENG 391 and COMP ENG 392 may not be used for free electives. No more than once credit hour of COMP ENG 202 or ELEC ENG 202 may be applied to the BS degree for free electives.
	Change Elec Eng 28x to Elec Eng 28xx. Delete Cp Eng 28x because these courses will not exist in the renumbered courses.

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. ~~Computers and~~

Architecture **and Embedded Systems**

Highly Recommended		
COMP ENG 312	**Course COMP ENG 312 Not Found**	**3**
COMP ENG 313	Course COMP ENG 313 Not Found	3
COMP ENG 314	**Course COMP ENG 314 Not Found**	**3**
COMP ENG 315	Course COMP ENG 315 Not Found	3
COMP ENG 331	**Course COMP ENG 331 Not Found**	**3**
Suggested		
COMP ENG 316	Course COMP ENG 316 Not Found	3
COMP ENG 342	**Real-Time Digital Signal Processing**	**3**
ELEC ENG 231	**Course ELEC ENG 231 Not Found**	**3**
ELEC ENG 253	**Course ELEC ENG 253 Not Found**	**3**
COMP SCI 206	**Course COMP SCI 206 Not Found**	**3**

Integrated Circuits and Logic Design ~~Embedded Computer Systems~~

~~Highly Recommended~~		
~~COMP ENG 312~~	~~Course COMP ENG 312 Not Found~~	~~3~~
~~COMP ENG 314~~	~~Course COMP ENG 314 Not Found~~	~~3~~

COMP ENG 331	Course COMP ENG 331 Not Found	3
Suggested		
COMP ENG 342	Real-Time Digital Signal Processing	3
ELEC ENG 231	Course ELEC ENG 231 Not Found	3
ELEC ENG 253	Course ELEC ENG 253 Not Found	3
COMP SCI 206	Course COMP SCI 206 Not Found	3

Highly Recommended		
COMP ENG 311	Course COMP ENG 311 Not Found	3
COMP ENG 318	Course COMP ENG 318 Not Found	3
Suggested		
ELEC ENG 253	Course ELEC ENG 253 Not Found	3
COMP ENG 312	Course COMP ENG 312 Not Found	3
COMP ENG 313	Course COMP ENG 313 Not Found	3
COMP ENG 315	Course COMP ENG 315 Not Found	3
COMP ENG 316	Course COMP ENG 316 Not Found	3
COMP ENG 317	Course COMP ENG 317 Not Found	3
COMP ENG 355	Course COMP ENG 355 Not Found	

Computational Intelligence

Highly Recommended		
COMP ENG 345	Digital Image Processing	3
COMP ENG 347	Machine Vision	3
COMP ENG 358	Course COMP ENG 358 Not Found	3
ELEC ENG 368	Course ELEC ENG 368 Not Found	3
Suggested		
ELEC ENG 338	Course ELEC ENG 338 Not Found	3

Networking and Software Engineering

Highly Recommended		
COMP ENG 319	Course COMP ENG 319 Not Found	3
or COMP SCI 365	Course COMP SCI 365 Not Found	
COMP ENG 345	**Digital Image Processing**	**3**
COMP ENG 347	**Machine Vision**	**3**
COMP ENG 348	Course COMP ENG 348 Not Found	3
COMP ENG 349	Course COMP ENG 349 Not Found	3
Suggested		

COMP ENG 317	Course COMP ENG 317 Not Found	3
COMP SCI 206	Course COMP SCI 206 Not Found	3
COMP SCI 307	Course COMP SCI 307 Not Found	3
IS&T 241	Course IS&T 241 Not Found	3

Security and Reliability

Highly Recommended		
COMP ENG 317	Course COMP ENG 317 Not Found	3
COMP ENG 319	Course COMP ENG 319 Not Found	3
or COMP SCI 365	Course COMP SCI 365 Not Found	
COMP ENG 349	Course COMP ENG 349 Not Found	3
Suggested		
COMP ENG 358	Course COMP ENG 358 Not Found	3

Justification for

request

This course list broadens the topic areas of mathematics and statistics courses that can be taken as the mathematics elective and meets the calculus II prerequisite requirement. The current mathematics elective requirement was too inclusive of mathematics courses that did not necessarily meet the calculus II prerequisite requirement. Please see "DC change - COMP ENG.pdf" for the originally submitted DC form.

Please see "New Cp Eng Elective and BCD Elective Renaming.pdf" for the details and justification to add a Cp Eng 3xx elective course in the Cp Eng BS degree program.

The justification for changes to requirements 14, 15 and 18 are to update the course requirements based on the course renumbering.

Please see the attached document "DC Change - COMP ENG emphasis areas.pdf" for the changes in the Computer Engineering Emphasis Areas. Please note that Cmp CS 355 - Analysis of Algorithms was added to the Suggested course list for the Computational Intelligence Emphasis Area in the attached DC form, but was not added to Suggest course list for the online DC form because Cmp Sc 355 does not exist in the Computer Science course list.

Supporting
Documents

DC Change - COMP ENG emphasis areas.pdf
DC change - COMP ENG.pdf
New Cp Eng Elective and BCD Elective Renaming.pdf

Course Reviewer
Comments

lahne (01/29/14 2:58 pm): Rollback: departmental request

Key: 153

Program Change Request

Date Submitted: 09/25/13 10:27 am

Viewing: AP MATH-BS : Applied Mathematics BS

File: 142.1

Last edit: 01/29/14 4:58 pm

Changes proposed by: imorgan

Catalog Pages
Using this
Program

Mathematics

Start Term	**Fall 2014**
Program Code	AP MATH-BS
Department	Mathematics & Statistics
Title	

Applied Mathematics BS

Program Requirements and Description

Bachelor of Science
Applied Mathematics

A minimum of 132 credit hours is required for a Bachelor of Science degree in Applied Mathematics. A minimum grade of "C" is required by the department in each course counted toward the Math/Stat requirement for the B.S. in Applied Mathematics. Moreover, the department requires that an average of at least two grade points per credit hour must be obtained for all courses taken within the department. These requirements for the B.S. degree are in addition to credit received for algebra, trigonometry, and basic ROTC.

The Applied Mathematics curriculum requires fifteen semester hours of technical **electives, except where this requirement is reduced** ~~electives in addition~~ to **compensate for extra requirements of emphasis areas, in addition to** basic courses in

chemistry or biology, physics, computer science, and economics. Two semesters of a foreign language, ENGLISH 60 or ENGLISH 160, and either HISTORY 175, HISTORY 176, HISTORY 112, or POL SCI 90 are also required. Specific requirements for the bachelor's degree are outlined in the sample program below.

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MATH 1	1	MATH 21[1]	5
MATH 8[1]	5	Science Requirement[5]	5
CHEM 4	1	COMP SCI 53, or COMP SCI 73 *and* COMP SCI 77, or COMP SCI 74 *and* COMP SCI 78[12]	3
ENGLISH 20	3	Foreign Language Requirement[3]	4
Campus History Requirement[2]	3	Basic ROTC (if elected)[4]	0
Foreign Language Requirement[3]	4		
Basic ROTC (if elected)[4]	0		
	17		17
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MATH 22[1]	4	MATH 204[1]	3
MATH 208[1]	3	MATH 209[1]	3
Statistics Requirement[1,6,7]	3	ECON 121 or ECON 122	3
PHYSICS 21	4	PHYSICS 25	4
PHYSICS 22	1	PHYSICS 26	1
ENGLISH 60	3	COMP SCI Requirement[7,8]	3
Basic ROTC (if elected)[4]	0	Basic ROTC (if elected)[4]	0
	18		17
Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MATH 309[1]	3	MATH 311[1]	3
Literature	3	Literature	3
Electives-Math or Stat[1,7,9]	3	Electives-Math or Stat[1,7,9]	3
Electives-Technical[10]	3	Electives-Technical[10]	3
Electives	3	Electives	3
	15		15
Senior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MATH 361[1,11]	1	MATH 381[1,11]	1

MATH 371[1,11]	1	Electives-Math or Stat[1,7,9]	3
Electives-Math or Stat[1,7,9]	3	Electives-Technical[10]	3
Electives-Technical[10]	6	Electives	9
Electives	6		
	17		16
Total Credits: 132			

1	A minimum grade of "C" is required by the department in each course counted toward the Math/Stat requirement for the B.S. in Applied Mathematics. Moreover, the department requires that an average of at least two grade points per credit hour must be obtained for all courses taken within the department.
2	May be met by HISTORY 112, HISTORY 175, HISTORY 176, or POL SCI 90.
3	A modern language approved by the advisor (six hours credit is acceptable from transfer students.) Requirement may be met by examination or, with approval of the department, by three years of a foreign language in high school.
4	Basic ROTC may be elected in the freshman and sophomore years, but is not creditable toward a degree. Up to six credit hours of advanced ROTC may be credited as free electives towards a degree.
5	May be met by CHEM 1 and CHEM 2 or by BIO SCI 110 and BIO SCI 112.
6	May be met by STAT 215, STAT 217, or STAT 343.
7	No course may be used to satisfy more than one degree requirement.
8	May be met by COMP SCI 153, COMP SCI 128 or COMP SCI 228.
9	The student must choose two from the following five groups and then complete six hours in each of the chosen groups 1. MATH 305, MATH 306, MATH 307, MATH 308 2. MATH 305, MATH 315, MATH 330 or MATH 5530, MATH 351, MATH 385 3. MATH 302, MATH 303, MATH 322, MATH 325, MATH 351, MATH 383 4. STAT 314, STAT 343, STAT 344, STAT 346, STAT 353, STAT 355, STAT 356 5. COMP SCI 228, COMP SCI 328, COMP SCI 329, STAT 314, STAT 346, STAT 355, STAT 356, MATH 303, MATH 337.
10	Courses in chemistry, physics, mechanics, geology, computer science, economics or engineering approved by advisor. The general math curriculum requires 15 credit hours; actuarial science emphasis area, 9 credit hours; algebra/discrete math, 12 credit hours; computational math, 9 credit hours; statistics, 12 credit hours.
11	The three courses MATH 361, MATH 371, and MATH 381 constitute the Capstone experience for mathematics majors.
12	**COMP SCI 53 if not transferred in will require COMP SCI 54, requiring one extra credit hour which will count either towards technical electives or free electives.**

Emphasis Areas at the Bachelor of Science Level[12]

Actuarial Science Emphasis Area[12]

Required courses:

STAT 343	Course STAT 343 Not Found	3
STAT 344	Course STAT 344 Not Found	3
ECON 121	Course ECON 121 Not Found	3
ECON 122	Course ECON 122 Not Found	3

ECON 222	Course ECON 222 Not Found	3
MATH 337	Course MATH 337 Not Found	3
And six hours from:		6
STAT 314	Course STAT 314 Not Found	
STAT 346	Course STAT 346 Not Found	
STAT 353	Course STAT 353 Not Found	
STAT 355	Course STAT 355 Not Found	
STAT 356	Course STAT 356 Not Found	

In addition, the student must pass the first Actuarial Science Exam.

Algebra/Discrete Mathematics Emphasis Area[12]

Required courses:

MATH 305	Course MATH 305 Not Found	3
MATH 306	Course MATH 306 Not Found	3
or MATH 405	Course MATH 405 Not Found	
MATH 307	Course MATH 307 Not Found	3
MATH 308	Course MATH 308 Not Found	3
STAT 343	Course STAT 343 Not Found	3
Select one of the following:		3
STAT 344	Course STAT 344 Not Found	
COMP SCI 220	**Course COMP SCI 220 Not Found**	
COMP SCI 228	Introduction To Numerical Methods	
~~COMP SCI 330~~	~~Course COMP SCI 330 Not Found~~	
COMP SCI 325	Course COMP SCI 325 Not Found	

Computational Mathematics Emphasis Area[12]

Required courses:

STAT 353	Course STAT 353 Not Found	3
STAT 346	Course STAT 346 Not Found	3
COMP SCI 228	Introduction To Numerical Methods	3
Select two of the following:		
MATH 302	Course MATH 302 Not Found	
MATH 303	Course MATH 303 Not Found	
MATH 325	Course MATH 325 Not Found	
Select one of the following:		3

COMP SCI 328	Course COMP SCI 328 Not Found
COMP SCI 329	Course COMP SCI 329 Not Found
MECH ENG 307	Course MECH ENG 307 Not Found

Applied Analysis Emphasis Area[12]

Required:

COMP SCI 228	Introduction To Numerical Methods	3
and two of groups 3, 4, and 5 under Mathematics of Statistics electives must be satisfied.		
and choose Technical Electives and Free Electives to satisfy one of the following two options:		

Engineering Option (A)

Required courses:

CIV ENG 50	Course CIV ENG 50 Not Found	
CIV ENG 110	Course CIV ENG 110 Not Found	
Select one of the following:		
IDE 150	Course IDE 150 Not Found	
MECH ENG 160	Course MECH ENG 160 Not Found	
Select three of the following:		9
Courses, which have any of the listed courses as prerequisites, may also be used to fulfill this requirement.		
AERO ENG 213	Course AERO ENG 213 Not Found	
AERO ENG 313	Course AERO ENG 313 Not Found	
AERO ENG 314	Course AERO ENG 314 Not Found	
CHEM ENG 120	Course CHEM ENG 120 Not Found	
CHEM ENG 141	Course CHEM ENG 141 Not Found	
ELEC ENG 281	Course ELEC ENG 281 Not Found	
MECH ENG 213	Course MECH ENG 213 Not Found	
MECH ENG 219	Course MECH ENG 219 Not Found	
or MECH ENG 227	Course MECH ENG 227 Not Found	
MECH ENG 331	Course MECH ENG 331 Not Found *	
NUC ENG 203	Course NUC ENG 203 Not Found	
NUC ENG 303	Course NUC ENG 303 Not Found	
PET ENG 320	Course PET ENG 320 Not Found	
CIV ENG 230	Course CIV ENG 230 Not Found	
or NUC ENG 221	Course NUC ENG 221 Not Found	
or MECH ENG 231	Course MECH ENG 231 Not Found	
CIV ENG 323	Course CIV ENG 323 Not Found	

CIV ENG 333	Course CIV ENG 333 Not Found
MECH ENG 368	Course ELEC ENG 368 Not Found
MECH ENG 307	Course MECH ENG 307 Not Found
MECH ENG 311	Course MECH ENG 311 Not Found
MECH ENG 334	Course MECH ENG 334 Not Found *
MECH ENG 354	Course MECH ENG 354 Not Found
GEO ENG 315	Course GEO ENG 315 Not Found
GEOPHYS 286	Course GEOPHYS 286 Not Found
GEOPHYS 321	Course GEOPHYS 321 Not Found

| * | Courses with an asterisk (*) are co-listed in more than one department. |

Physics Option (B)

Required courses:

PHYSICS 207	Course PHYSICS 207 Not Found	3
PHYSICS 307	Course PHYSICS 307 Not Found	3
And take at least nine additional hours of physics courses at the 2000 level or above.		9

Note that the requirements for a minor in physics will be satisfied with this option.

Secondary Education Emphasis Area

You may earn a B.S. Degree in Applied Mathematics from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with this 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 Missouri S&T Campus.
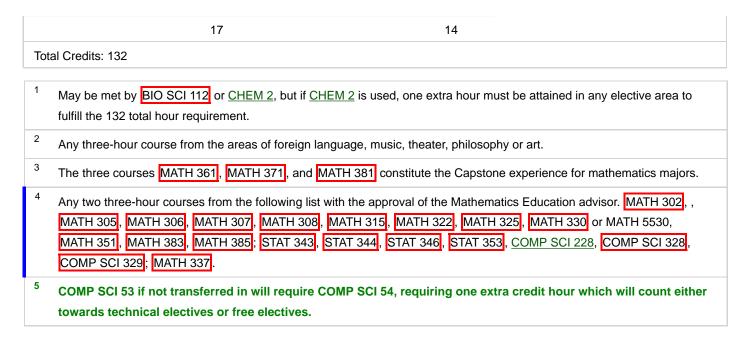
Students interested in this emphasis area should consult with the advisor for Mathematics Education majors in the Mathematics and Statistics Department.

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 mathematics 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 in the 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 132 credit hours. The required courses and a sample four-year program are provided below. (A minimum grade of "C" is required by the department in all mathematics and statistics courses counted toward this degree. No course may be used to satisfy more than one degree requirement.)

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MATH 1	1	MATH 21	5
MATH 8	5	BIO SCI 110	3

ENGLISH 20	3	BIO SCI 112 (Science Lab Requirement)[1]	2
HISTORY 175 or HISTORY 176	3	PSYCH 50	3
COMP SCI 53, or COMP SCI 73 *and* COMP SCI 77, or COMP SCI 74 *and* COMP SCI 78[5]	3	EDUC 40	2
	15		15

Sophomore Year

First Semester	Credits	Second Semester	Credits
MATH 22	4	MATH 204	3
MATH 208	3	MATH 209	3
PHYSICS 21	4	ENGLISH 60	3
PHYSICS 22	1	PHYSICS 25	4
PSYCH 208	3	PHYSICS 26	1
EDUC 104	2	SP&M S 85	3
	17		17

Junior Year

First Semester	Credits	Second Semester	Credits	Summer Semester	Credits
MATH 309	3	MATH 311	3	EDUC 216	3
STAT 215, or STAT 217, or STAT 343	3	MATH 330	3		
EDUC 164	2	PSYCH 354	3		
EDUC 174	2	EDUC 280	6		
PSYCH 155	3	Fine Art Elective[2]	3		
ECON 121 or ECON 122	3				
	16		18		3

Senior Year

First Semester	Credits	Second Semester	Credits
MATH 361[3]	1	MATH 381	1
MATH 371[3]	1	EDUC 298 & EDUC 299	13
Electives-Math or Stat[4]	6		
EDUC 251	3		
POL SCI 90	3		
Literature	3		

	17	14
Total Credits: 132		

1	May be met by BIO SCI 112 or CHEM 2, but if CHEM 2 is used, one extra hour must be attained in any elective area to fulfill the 132 total hour requirement.
2	Any three-hour course from the areas of foreign language, music, theater, philosophy or art.
3	The three courses MATH 361, MATH 371, and MATH 381 constitute the Capstone experience for mathematics majors.
4	Any two three-hour courses from the following list with the approval of the Mathematics Education advisor. MATH 302, , MATH 305, MATH 306, MATH 307, MATH 308, MATH 315, MATH 322, MATH 325, MATH 330 or MATH 5530, MATH 351, MATH 383, MATH 385; STAT 343, STAT 344, STAT 346, STAT 353, COMP SCI 228, COMP SCI 328, COMP SCI 329; MATH 337.
5	**COMP SCI 53 if not transferred in will require COMP SCI 54, requiring one extra credit hour which will count either towards technical electives or free electives.**

Statistics Emphasis Area

Required courses:

STAT 343	Course STAT 343 Not Found	3
STAT 344	Course STAT 344 Not Found	3
STAT 346	Course STAT 346 Not Found	3
STAT 353	Course STAT 353 Not Found	3
Select two of the following:		6
BIO SCI 231	Course BIO SCI 231 Not Found	
COMP SCI 228	Introduction To Numerical Methods	
ENG MGT 385	Course ENG MGT 385 Not Found	
And complete either A or B:		6-9
(A) Complete the following 2 courses:		
MATH 315	Course MATH 315 Not Found	
MATH 351	Course MATH 351 Not Found	
(B) Complete 6 hours from:		
MATH 303	Course MATH 303 Not Found	
MATH 307	Course MATH 307 Not Found	
MATH 308	Course MATH 308 Not Found	
Total Credits		24-27

Note: It is not required that students complete an emphasis area to obtain the Bachelor of Science degree in Applied Mathematics. The emphasis area requirements often specify most, if not all, of the electives in Mathematics, Statistics and Computer Science as well as many technical or free electives.

Justification for
request

In Footnote 9, we would like to include both options (Math 4530 and Math 5530) in Group 2 rather than defaulting to Math 4530, which is the primary option in the renumbering list. We plan to specify that credit will be granted for only one of Math 4530 and Math 5530.

In the Secondary Education emphasis area, we would also like to have "Math 4530 or Math 5530" in place of the Math 330 requirement. If it is possible at this stage, please change the inactive course Econ 321 to Math 337, which is a change we recently made in our general Applied Math curriculum (footnote 9).

In the Applied Analysis emphasis area option (B), we would like the requirement to read "at least nine additional hours of physics courses at the 2000 level or above". This preserves the options the students currently have to satisfy this requirement.

For clarification purposes, Footnote 10 has been altered to list the number of technical elective credit hours for each of the emphasis areas that has such a requirement. For actuarial science, the number of technical elective credit hours has been reduced from 12 to 9 to compensate for the increase in the emphasis area specific requirements that resulted from a change for Fall Semester 2013.

Supporting
Documents

Course Reviewer
Comments

Key: 142

Course Inventory Change Request

Date Submitted: 02/04/14 3:50 pm

Viewing: **BIO SCI 112/1219** ~~112~~ : General Biology Lab

File: 107.1

Last edit: 03/06/14 7:16 pm

Changes proposed by: shannonk

Requested Effective Change Date	**Fall 2014** ~~24 Aug 98~~
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	**112/1219** ~~112~~
Title	

In Workflow

1. **RBIOLSCI 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. Peoplesoft

Approval Path

1. 02/18/14 11:02 am aronstam: Approved for RBIOLSCI Chair
2. 02/18/14 3:12 pm kleb6b: Approved for CCC Secretary
3. 03/06/14 7:17 pm tauritzd:

General Biology Lab

| Abbreviated Course Title | General Biology Lab |

Catalog Description

The laboratory work accompanying general biology consists of experiments designed to supplement and extend lectures in **General Biology and Principles of Biology** ~~course Bio 1.~~

Prerequisites

Preceded or accompanied by **either** Bio Sci **1113 or Bio Sci 1213.** ~~110.~~

Field Trip Statement

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

| Required for Majors | No |

| Elective for Majors | No |

Justification for change:

Fixes typo in course description and Prereqs should be 110 OR 111

Semesters previously offered as an experimental course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 107

Course Inventory Change Request

Date Submitted: 02/04/14 3:55 pm

Viewing: **BIO SCI 388/3483.TBD** ~~388~~ :

Biomedical Problems

File: 2278.1

Last edit: 02/18/14 3:11 pm

Changes proposed by: shannonk

Requested Effective Change Date	**Fall 2014** ~~12 Aug 13~~
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	**388/3483** ~~388~~
Title	

In Workflow

1. **RBIOLSCI 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. Peoplesoft

Approval Path

1. 02/18/14 11:01 am aronstam: Approved for RBIOLSCI Chair
2. 02/18/14 3:11 pm kleb6b: Approved for CCC Secretary
3. 03/06/14 7:21 pm tauritzd:

Approved for
Sciences DSCC
Chair

Biomedical Problems

Abbreviated   Biomedical Problems
Course Title

Catalog
Description

This course will use a problem-based learning approach to examine biological
aspects of various medical conditions. Students will work in groups and individually
to answer problems related to diagnostic testing and evaluation of diseases and
other medical conditions.

Prerequisites

Bio Sci **244 (3333)** ~~242~~ or **246 (3343).** ~~244 or 246.~~

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:

Old prereq courses are no longer offered. A&P I or II replace previously offered
courses

Semesters
previously
offered as an

experimental

course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 2278

Course Inventory Change Request

Date Submitted: 02/17/14 4:45 pm

Viewing: **BIO SCI 2372 : Issues in Public Health**

File: 1712.1

Last edit: 03/06/14 7:20 pm

Changes proposed by: shannonk

Requested Effective Change Date	**Fall 2014** ~~08/14/2014~~
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	2372
Title	

In Workflow

1. **RBIOLSCI 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. Peoplesoft

Approval Path

1. 02/18/14 11:01 am aronstam: Approved for RBIOLSCI Chair
2. 02/18/14 3:10 pm kleb6b: Approved for CCC Secretary
3. 03/06/14 7:20 pm tauritzd:

Approved for
Sciences DSCC
Chair

Issues in Public Health

Abbreviated Course Title	Issues in Public Health

Catalog Description

~~Due to globalization, diseases such as West Nile Disease, Ebola Hemorrhagic Fever,and SARS are able to overcome geographic barriers and become widespread.~~**Issues in Public Health investigates • chronic** ~~We will discuss the nature of these diseases~~ **and infectious diseases, and the** ~~their~~ impact **of globalization** on **such diseases, • environmental toxins, • controversies in** public **health.** ~~health, national security, and the global economy.~~ **Students will develop an awareness of current public health issues and trends in order to make informed arguments and personal choices.**

Prerequisites

Bio Sci 1113 or Bio Sci 1213.

Field Trip Statement

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

Required for Majors	No

Elective for Majors	**Yes** ~~No~~

Justification for change:

Allows exploration of more recent topics than listed in the previous description

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

tauritzd (03/06/14 7:20 pm): The changes to the course description make it quite a bit more general than the old description, but Biology wants this in order to allow the instructor more freedom to choose the most current issues in Public Health in order to keep the course relevant. There were no objections voiced in the Sciences-DSCC.

Key: 1712

Course Inventory Change Request

Date Submitted: 01/29/14 2:30 pm

Viewing: **COMP ENG 214 : Digital Engineering Lab II**

File: 402.1

Last edit: 01/29/14 2:30 pm

Changes proposed by: stanleyj

Programs referencing this course

  CP ENG-BS: Computer Engineering BS

Requested Effective Change Date	**Fall 2014** ~~13-Aug-07~~
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	214
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 01/29/14 4:04 pm kte: Approved for RELECENG Chair
2. 01/29/14 4:09 pm kleb6b: Approved for CCC Secretary
3. 02/10/14 12:39 pm sraper: Approved for Engineering

DSCC Chair

Digital Engineering Lab II

Abbreviated   Digital Eng Lab II
Course Title

Catalog
Description
  Advanced digital design techniques, Microcontroller based design, hardware and
  software codesign. Preceded or accompanied by Comp Eng **213.** ~~213, Elec Eng 121~~
  ~~and Elec Eng 122.~~

Prerequisites
  Comp Eng 111, Comp Eng 112, and Comp Sci 53 (or programming equivalent) each
  with grade of "C" or better.

Field Trip
Statement

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

Required for   No
Majors

Elective for   No
Majors

Justification for
change:
  Elec Eng 121 and 122 are removed from the preceded or accompanied course list
  because comparable material from Elec Eng 121 and 122 is taught in Comp Eng 111,
  which is a prerequisite for Comp Eng 214.

Semesters
previously
offered as an
experimental

course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 402

Course Inventory Change Request

Date Submitted: 01/29/14 2:06 pm

Viewing: **COMP ENG 342 : Real-Time Digital Signal Processing**

File: 413.1

Last edit: 01/29/14 4:10 pm

Changes proposed by: stanleyj

Programs referencing this course

  CP ENG-BS: Computer Engineering BS

Requested Effective Change Date	**Fall 2014** ~~16-Aug-10~~
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	342
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 01/29/14 4:04 pm kte: Approved for RELECENG Chair
2. 01/29/14 4:10 pm kleb6b: Approved for CCC Secretary
3. 02/10/14 12:40 pm sraper: Approved for Engineering

DSCC Chair

Real-Time Digital Signal Processing

Abbreviated Course Title	Real-Time Digit Sign Pro

Catalog Description

Introduction to the use of programmable DSP chips. Includes real-time data acquisition, signal generation, interrupt-driven programs, high-level language, and assembly level routines. Applications to real-time systems are also presented.

Prerequisites

Elec Eng **3400** ~~215~~ or Elec Eng **3410.** ~~267.~~

Field Trip Statement

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

Required for Majors	No

Elective for Majors	No

Justification for change:

Elec Eng 215 has been renumbered as Elec Eng 3400. Elec Eng 267 is no longer offered. Elec Eng 267 has been renamed Elec Eng 3410.

Semesters previously offered as an experimental course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 413

Course Inventory Change Request

Date Submitted: 01/29/14 2:01 pm

Viewing: **COMP ENG 345 : Digital Image Processing**

File: 414.1

Last edit: 01/29/14 2:01 pm

Changes proposed by: stanleyj

Programs referencing this course

 CP ENG-BS: Computer Engineering BS

Other Courses referencing this course

 In The Catalog Description:

 ELEC ENG 5450 : Digital Image Processing

Requested Effective Change Date	**Fall 2014** ~~14-Jan-02~~
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	345
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 01/29/14 4:04 pm kte: Approved for RELECENG Chair
2. 01/29/14 4:10 pm kleb6b: Approved for CCC Secretary
3. 02/10/14 12:40 pm sraper: Approved for Engineering

DSCC Chair

Digital Image Processing

Abbreviated Course Title	Digital Image Processing

Catalog Description

Fundamentals of human perception, sampling and quantization, image transforms, enhancement, restoration, channel and source coding. Prerequisite: Elec Eng **3410** ~~267~~

Prerequisites

Field Trip Statement

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

Required for Majors	No

Elective for Majors	No

Justification for change:

Elec Eng 267 is no longer offered. This course has been renamed Elec Eng 3410 - Discrete Linear Systems.

Semesters previously offered as an experimental course

Co-Listed

Courses:

  ELEC ENG 345 - Course Not Found

Course Reviewer

Comments

Key: 414

Course Inventory Change Request

Date Submitted: 01/29/14 2:04 pm

Viewing: **COMP ENG 347 : Machine Vision**

File: 1981.1

Last edit: 01/29/14 2:04 pm

Changes proposed by: stanleyj

Programs referencing this course

CP ENG-BS: Computer Engineering BS

Other Courses referencing this course

In The Catalog Description:

ELEC ENG 5460 : Machine Vision

Requested Effective Change Date	**Fall 2014** ~~14-Aug-06~~
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	347
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 01/29/14 4:03 pm kte: Approved for RELECENG Chair
2. 01/29/14 4:10 pm kleb6b: Approved for CCC Secretary
3. 02/10/14 12:41 pm sraper: Approved for Engineering

DSCC Chair

Machine Vision

Abbreviated
Course Title

Machine Vision

Catalog
Description

Image information, image filtering, template matching, histogram transformations,
edge detection, boundary detection, region growing and pattern recognition.
Complementary laboratory exercises are required.

Prerequisites

Comp Eng 111 and preceded or accompanied by Elec Eng **3410.** 267.

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:

Elec Eng 267 is no longer offered. This course has been renamed Elec Eng 3410 -
Discrete Linear Systems.

Semesters
previously
offered as an
experimental
course

Co-Listed

Courses:

ELEC ENG 347 - Course Not Found

Course Reviewer

Comments

Key: 1981

Course Inventory Change Request

Date Submitted: 02/10/14 8:46 am

Viewing: **COMP ENG 391 : Computer Engineering Senior Project I**

File: 419.1

Last edit: 02/10/14 8:46 am

Changes proposed by: watkins

Programs referencing this course

CP ENG-BS: Computer Engineering BS
EL ENG-BS: Electrical Engineering BS

Requested Effective Change Date	**Fall 2014** ~~4 Jan 10~~
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	391
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 02/10/14 10:44 am
   kte: Approved for RELECENG Chair
2. 02/10/14 12:59 pm
   kleb6b: Approved for CCC Secretary
3. 02/17/14 12:02 pm

sraper: Approved
for Engineering
DSCC Chair

Computer Engineering Senior Project I

Abbreviated Course Title	Cp Eng Senior Project I

Catalog Description

A complete design cycle. Working in small teams, students will design, document, analyze, implement, and test a product. Topics include: Iteration in design, prototyping, group dynamics, design reviews, making effective presentations, concurrent design, designing for test, ethics and standards, testing and evaluation.

Prerequisites

~~Stat 217,~~ Comp Eng 111, Econ 121 or 122, ~~Sp&M S 85,~~ English 160, Comp Eng 213, 214, 215, and Elec Eng 121.

Field Trip Statement

Credit Hours Total: 1	LEC: 0	LAB: 0.5	IND: 0	RSD: 0.5

Required for Majors	No

Elective for Majors	No

Justification for change:

Electives Stat 217 and SpMS 85 moved to Prerequisites for CpE 392. Modification to Undergraduate CpE Requirements per ECE Faculty 11/21/2013.

Semesters
previously

offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 419

Course Inventory Change Request

Date Submitted: 02/10/14 8:44 am

Viewing: **COMP ENG 392 : Computer Engineering Senior Project II**

File: 420.1

Last edit: 02/10/14 11:09 am

Changes proposed by: watkins

Programs referencing this course

   CP ENG-BS: Computer Engineering BS

   EL ENG-BS: Electrical Engineering BS

Requested Effective Change Date	**Fall 2014** 24 Aug 98
Department	Electrical and Computer Engineering
Discipline	Computer Engineering (COMP ENG)
Course Number	392
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 02/10/14 8:46 am kte: Approved for RELECENG Chair
2. 02/10/14 11:09 am kleb6b: Approved for CCC Secretary
3. 02/17/14 12:02 pm sraper: Approved

for Engineering

DSCC Chair

Computer Engineering Senior Project II

Abbreviated Course Title	Cp Eng Senior Project II

Catalog Description

A continuation of Comp Eng 391.

Prerequisites

Comp Eng 391 with a grade of "C" or better. Stat 217 and Sp&M S 85 ~~Comp Eng 391.~~

Field Trip Statement

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

Required for Majors	**Yes** ~~No~~

Elective for Majors	No

Justification for change:

Electives Stat 217 and SpMS 85 deleted from CpE 391 and moved to Prerequisites for CpE 392. Modification to Undergraduate EE Requirements per ECE Faculty 11/21/2013.

Semesters previously offered as an experimental course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 420

Course Inventory Change Request

Date Submitted: 02/01/14 11:05 am

Viewing: **COMP SCI 128 : Discrete Mathematics For Computer Science**

File: 438.1

Last edit: 02/01/14 11:05 am

Changes proposed by: tauritzd

Catalog Pages referencing this course

Mathematics

Programs referencing this course

AP MATH-BS: Applied Mathematics BS

CMP SC-BS: Computer Science BS

CMP SC-MI: Computer Science Minor

CP ENG-BS: Computer Engineering BS

Other Courses referencing this course

In The Prerequisites:

COMP SCI 2500 : Algorithms

Requested Effective Change Date

Spring 2015 ~~12-Aug-13~~

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

Approval Path

1. 02/01/14 12:39 pm
   sdas: Approved for RCOMPSCI Chair
2. 02/03/14 8:07 am
   kleb6b: Approved for CCC Secretary
3. 03/06/14 7:21 pm
   tauritzd:

Department	Computer Science		Approved for Sciences DSCC Chair
Discipline	Computer Science (COMP SCI)		
Course Number	128		
Title	Discrete Mathematics For Computer Science		
Abbreviated Course Title	Discrete Math For Cmp Sc		

Catalog Description

A rigorous treatment of topics from discrete mathematics which are essential to computer science. Principal topics include: formal logic (propositional & predicate), proof techniques, mathematical induction, program correctness, sets, combinatorics, **discrete** probability, relations, functions, matrices, graph theory and graph algorithms.

Prerequisites

A "C" or better grade in Comp Sci **1570.** ~~53 or at least Sophomore standing.~~

Field Trip Statement

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

Required for Majors   **Yes** ~~No~~

Elective for Majors   No

Justification for change:

Comp Sci 1570 is necessary to understand program examples illustrating the concepts taught in this course.

Semesters previously

offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 438

Course Inventory Change Request

Date Submitted: 02/10/14 8:39 am

Viewing: **ELEC ENG 391 : Electrical Engineering Senior Project I**

File: 596.1

Last edit: 02/10/14 8:39 am

Changes proposed by: watkins

Programs referencing this course

CP ENG-BS: Computer Engineering BS

EL ENG-BS: Electrical Engineering BS

Requested Effective Change Date	**Fall 2014** ~~15 Aug 11~~
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	391
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 02/10/14 8:47 am kte: Approved for RELECENG Chair
2. 02/10/14 11:10 am kleb6b: Approved for CCC Secretary
3. 02/17/14 12:02 pm sraper: Approved

for Engineering

DSCC Chair

Electrical Engineering Senior Project I

Abbreviated　　　　　EE Senior Project I
Course Title

Catalog
Description
　A complete design cycle. Working in small teams, students will design, document,
　analyze, implement and test a product. Topics include: Iteration in design,
　prototyping, group dynamics, design reviews, making effective presentations,
　concurrent design, designing for test, ethics and standards, testing and evaluation.

Prerequisites
　~~Stat 217,~~ Comp Eng 111, Econ 121 or 122, ~~Sp&M S 85,~~ English 160, at least 3 of the
　following: Elec Eng 205, Elec Eng 207, Elec Eng **231,** ~~215,~~ Elec Eng **241,** ~~217,~~ Elec Eng
　271, Elec Eng 253.

Field Trip
Statement

Credit Hours　　　　LEC: 0　　　　　LAB: 0.5　　　　IND: 0　　　　　RSD: 0.5
　Total: 1

Required for　　　　**Yes** ~~No~~
Majors

Elective for　　　　No
Majors

Justification for
change:
　Electives Stat 217 and SpMS 85 moved to Prerequisites for EE 392. Course EE 215
　and EE 217 replaced by EE 231 and EE 241 in proposed currciulum. Modification to
　Undergraduate EE Requirements per ECE Faculty 11/21/2013 and 12/12/2013.

Semesters

previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 596

Course Inventory Change Request

Date Submitted: 02/10/14 8:41 am

Viewing: **ELEC ENG 392 : Electrical Engineering Senior Project II**

File: 597.1

Last edit: 02/10/14 11:11 am

Changes proposed by: watkins

Programs referencing this course

CP ENG-BS: Computer Engineering BS

EL ENG-BS: Electrical Engineering BS

Requested Effective Change Date	**Fall 2014** ~~12 Aug 13~~
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	392
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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Peoplesoft

Approval Path

1. 02/10/14 8:46 am kte: Approved for RELECENG Chair
2. 02/10/14 11:11 am kleb6b: Approved for CCC Secretary
3. 02/17/14 12:02 pm sraper: Approved

for Engineering

DSCC Chair

Electrical Engineering Senior Project II

Abbreviated			EE Senior Project II
Course Title

Catalog
Description
  A continuation of **Elec** ~~El~~ Eng 391.

Prerequisites
  Elec Eng 391 with a grade of "C" or better. **Stat 217 and Sp&M S 85**

Field Trip
Statement

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

Required for		**Yes** ~~No~~
Majors

Elective for		No
Majors

Justification for
change:
  Electives Stat 217 and SpMS 85 deleted for EE 391 and moved to Prerequisites for EE
  392. Modification to Undergraduate EE Requirements per ECE Faculty 11/21/2013.

Semesters
previously
offered as an
experimental
course

Co-Listed

Courses:

Course Reviewer

Comments

Course Inventory Change Request

Date Submitted: 01/31/14 11:56 am

Viewing: **MIN ENG 343 : Coal Mine Development And Production**

File: 1176.1

Last edit: 01/31/14 11:56 am

Changes proposed by: kabp3

Programs referencing this course

  MI ENG-BS: Mining Engineering BS

Requested Effective Change Date	**Fall 2014** ~~1-Jul-04~~
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	343
Title	

In Workflow

1. **RMINNUCL 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. Peoplesoft

Approval Path

1. 01/31/14 1:12 pm frimpong: Approved for RMINNUCL Chair
2. 01/31/14 1:24 pm kleb6b: Approved for CCC Secretary
3. 02/10/14 12:33 pm sraper: Approved

for Engineering

DSCC Chair

Coal Mine Development And Production

Abbreviated   Coal Min Devlp & Product
Course Title

Catalog
Description
  An in-depth study of all aspects of coal mining, including an overview of coal
  industry, reserves and geology, planning and development of coal mines, surface and
  underground mechanized methods of face preparation, equipment, coal extraction,
  handling and preparation as practiced in the United States.

Prerequisites
  Accompanied or preceded by Min Eng **317 or instructor consent.** ~~217.~~

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:
  Min Eng 217 (the previous prerequisite) is no longer active.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

lahne (01/31/14 8:36 am): Rollback: .

Key: 1176

Course Inventory Change Request

Date Submitted: 01/31/14 11:53 am

Viewing: **MIN ENG 404 : Advanced Mining Systems**

File: 1657.1

Last edit: 01/31/14 11:53 am

Changes proposed by: kabp3

Requested Effective Change Date	**Fall 2014** ~~1 Jul 04~~
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	404
Title	

In Workflow

1. **RMINNUCL 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. Peoplesoft

Approval Path

1. 01/31/14 1:12 pm frimpong: Approved for RMINNUCL Chair
2. 01/31/14 1:24 pm kleb6b: Approved for CCC Secretary
3. 02/10/14 12:32 pm sraper: Approved

for Engineering

DSCC Chair

Advanced Mining Systems

Abbreviated Course Title	Advanced Mining Systems

Catalog Description

Principles of design for the development and production of hard rock mineral deposits that require integrated surface and underground mining methods. Cost considerations leading to optimization. Terminal feasibility report required.

Prerequisites

Min Eng **324** ~~224, 226~~ and **326 or instructor consent.** ~~393.~~

Field Trip Statement

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

Required for Majors	No

Elective for Majors	No

Justification for change:

Previous prerequisites are no longer active.

Semesters previously offered as an experimental course

Co-Listed
Courses:

Course Reviewer
Comments

lahne (01/31/14 8:36 am): Rollback: .

Key: 1657

Course Inventory Change Request

Date Submitted: 01/31/14 11:53 am

Viewing: **MIN ENG 409 : Mining Property Feasibility Studies And Evaluation Procedure**

File: 1187.1

Last edit: 01/31/14 11:53 am

Changes proposed by: kabp3

Requested Effective Change Date	**Fall 2014** ~~1-Jul-04~~
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	409
Title	

In Workflow

1. **RMINNUCL 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. Peoplesoft

Approval Path

1. 01/31/14 1:12 pm frimpong: Approved for RMINNUCL Chair
2. 01/31/14 1:24 pm kleb6b: Approved for CCC Secretary
3. 02/10/14 12:32 pm sraper: Approved

for Engineering

DSCC Chair

Mining Property Feasibility Studies And Evaluation Procedure

Abbreviated Course Title	Min Prop Feas Stu & Eval

Catalog Description

A systematic phased approach is presented, designed to increase the level of confidence and accuracy of estimates, moving from exploration through to a "bankable" study. Liability, ethics, resource/reserves, political/social/investment risk, economic parameters, and due diligence are discussed.

Prerequisites

Min Eng 270 or Geology 294 or ~~Civ Eng 241~~ or ~~Eng Mgt 208 or~~ Min Eng 376 or Geophys **382 or instructor consent.** ~~382.~~

Field Trip Statement

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

Required for Majors	No

Elective for Majors	No

Justification for change:

Old prerequisite courses are no longer active.

Semesters previously offered as an experimental

course

Co-Listed
Courses:

Course Reviewer
Comments

lahne (01/31/14 8:36 am): Rollback: .

Key: 1187

Course Inventory Change Request

New Course Proposal

Date Submitted: 01/30/14 9:18 am

Viewing: **ART 4320.TBD : French and Francophone Cinema**

File: 4046

Last edit: 01/30/14 9:18 am

Changes proposed by: kleb6b

Requested Effective Change Date	Fall 2014
Department	Arts, Languages, & Philosophy
Discipline	Art (ART)
Course Number	4320
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. Peoplesoft

Approval Path

1. 02/24/14 2:15 pm lance: Approved for RPHILOSO Chair
2. 02/24/14 3:09 pm kleb6b: Approved for CCC Secretary
3. 02/24/14 3:47 pm ivliyeva:

French and Francophone Cinema

Abbreviated Course Title	French Cinema

Catalog Description

A survey of French and Francophone cinema.

Prerequisites

French 2170 or instructor's consent.

Field Trip Statement

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

Required for Majors	No

Elective for Majors	Yes

Justification for new course:

Expand course offerings for French and Art Minors and provide further opportunities for students to learn about 1) French and Francophone culture, and 2) cinema.

This course was previously offered as French 301 Contemporary French Cinema.

This form is to create a co-listing.

Semesters
previously

offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 4046

Course Inventory Change Request

New Course Proposal

Date Submitted: 02/06/14 4:02 pm

Viewing: **ECON 345/4643 : Ethical Problems in a Global Environment**

File: 4047

Last edit: 02/26/14 3:08 pm

Changes proposed by: marcys

Requested Effective Change Date	Summer 2014
Department	Economics
Discipline	Economics (ECON)
Course Number	345/4643
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. Peoplesoft

Approval Path

1. 02/20/14 2:29 pm gelles: Approved for RECONOMI Chair
2. 02/20/14 3:05 pm kleb6b: Approved for CCC Secretary
3. 02/26/14 9:29 am barryf: Rollback to CCC Secretary

for Social
Sciences DSCC
Chair
4. 02/26/14 1:37 pm
kleb6b: Approved
for CCC Secretary
5. 02/26/14 3:36 pm
barryf: Approved
for Social
Sciences DSCC
Chair
6. 03/11/14 8:42 am
kleb6b: Approved
for Pending CCC
Agenda post

Ethical Problems in a Global Environment

Abbreviated   Ethical Probs Global Env
Course Title

Catalog
Description
  Focuses on the international dimension of ethics including corporate responsibility
  from economic, social, and environmental perspectives. It addresses the ethical
  challenges of decision-making, stakeholder engagement, and governance at
  micro-(personal), and meso-(org), and macro (systems) levels.

Prerequisites
  Senior or graduate standing. Credit will not be given for both ECON 4643 and ECON
  5643.

Field Trip
Statement

Credit Hours   LEC: 3.0   LAB: 0   IND: 0   RSD: 0
  Total: 3.0

Required for Majors	No
Elective for Majors	Yes

Justification for new course:

Taught as BUS 301-Ethical Problems in Int'l Business, SS 12; ECON 301-Ethical Problems in a Global Environment, SS 13. This course was also taught SS 2012 as a study abroad experience in China; and is an elective for minor (Global Sustainable Economics). It has been approved for the Global Studies Minor.

Semesters previously offered as an experimental course

BUS 301 in SS 2012
ECON 301 in SS 2013

Co-Listed Courses:

Course Reviewer Comments

lahne (02/06/14 3:59 pm): Rollback: .

barryf (02/26/14 9:29 am): Rollback: Clarify that students can't take both for credit. Clarify justification.

Key: 4047

Course Inventory Change Request

New Course Proposal

Date Submitted: 02/06/14 4:07 pm

Viewing: **ECON 5643 : Advanced Ethical Problems in a Global Environment**

File: 4048

Last edit: 02/26/14 3:10 pm

Changes proposed by: marcys

Requested Effective Change Date	Fall 2014
Department	Economics
Discipline	Economics (ECON)
Course Number	5643
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. Peoplesoft

Approval Path

1. 02/20/14 2:29 pm gelles: Approved for RECONOMI Chair
2. 02/20/14 3:05 pm kleb6b: Approved for CCC Secretary
3. 02/26/14 9:29 am barryf: Rollback to CCC Secretary

for Social
Sciences DSCC
Chair
4. 02/26/14 1:37 pm
kleb6b: Approved
for CCC Secretary
5. 02/26/14 3:36 pm
barryf: Approved
for Social
Sciences DSCC
Chair

Advanced Ethical Problems in a Global Environment

Abbreviated   Adv Ethical Prob GlobEnv
Course Title

Catalog
Description
Focuses on the international dimension of ethics including corporate responsibility
from economic, social, and environmental perspectives. It addresses the ethical
challenges of decision-making, stakeholder engagement, and governance at
micro-(personal), and meso-(org), and macro (systems) levels. Case studies will be
included as part of the course.

Prerequisites
Senior or graduate standing. Credit will not be given for both ECON 4643 and ECON
5643.

Field Trip
Statement

Credit Hours   LEC: 3.0   LAB: 0   IND: 0   RSD: 0
  Total: 3.0

Required for   No
Majors

Elective for   Yes
Majors

Justification for
new course:

This course is the dual-career companion to ECON 4653, which is justified as having
been taught as BUS 301-Ethical Problems in Int'l Business, SS 12; ECON 301-Ethical
Problems in a Global Environment, SS 13. This course was also taught SS 2012 as a
study abroad experience in China; is an elective for minor (Global Sustainable
Economics) and a graduate certificate. It has been approved for the Global Studies
Minor.

Semesters
previously
offered as an
experimental
course

BUS 301 in SS 2012
ECON 301 in SS 2013

Co-Listed
Courses:

Course Reviewer
Comments

barryf (02/26/14 9:29 am): Rollback: Clarify that students can't take both for credit.
Clarify justification.

Key: 4048

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 02/24/14 1:45 pm

Viewing: **PHILOS 101.TBD : INTRODUCTION TO ETHICS**

File: 4055

Last edit: 02/24/14 3:49 pm

Changes proposed by: denises

Requested Effective Change Date	Summer 2014
Department	Arts, Languages, & Philosophy
Discipline	Philosophy (PHILOS)
Course Number	101
Topic ID	TBD
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
8. Peoplesoft

Approval Path

1. 02/24/14 2:16 pm lance: Approved for RPHILOSO Chair
2. 02/24/14 3:08 pm kleb6b: Approved for CCC Secretary
3. 02/24/14 3:49 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

INTRODUCTION TO ETHICS

Abbreviated Course Title	INTRODUCTION TO ETHICS
Instructors	JONATHAN FINCH

Catalog
Description

The study of proper and improper conduct is a complex inquiry. This class aims to introduce the student to a number of different thoughts and ideas about how this inquiry has been conducted by philosophers.

Prerequisites

Entrance requirements.

Field Trip
Statement

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

Justification for
new course:

Expansion of ethics curriculum

Semester(s)
previously taught

NONE

Co-Listed
Courses:

Course Reviewer
Comments

Key: 4055