

College of Engineering

2013-2014 catalog, submitted November 2012

I. SIGNIFICANT TRENDS:

The college of engineering spent the past year in preparation for their accreditation visit in November of 2012 and therefore chose to only make minor modifications to the catalog. The college continues to introduce new courses and minors in areas that are relevant to the needs of the students and constituents of the college.

II. CURRICULA, MAJORS, MINORS ADDED OR DROPPED:

Majors Added: None

Minors Added:

Energy Systems Minor

Wind Energy Minor (interdisciplinary)

Certificates Added: None

Majors, Minors, Certificates Dropped:

None:

III. NEW COURSES:

Bioengineering Minor:

BIOE 220 Introduction to Biomedical Engineering (3-0) Cr. 3

Chemical Engineering:

CH E 160 Chemical Engineering Problems with Computer Applications Laboratory (2-2) Cr. 3

CH E 420 Chemical Process Safety (3-0) Cr. 3

Electrical and Computer Engineering:

CPR E 480 Graphics Processing and Architecture (3-3) Cr. 4

Materials Science and Engineering:

E M 566 Phase Transformation in Elastic Materials (3-0) Cr. 3

M S E 557 Chemical and Physical Metallurgy of Rare Earth Metals (3-0) Cr. 3

M S E 601 Materials Seminar (1-0) Cr. 1

MAT E 457 Chemical and Physical Metallurgy of Rare Earth Metals (3-0) Cr. 3

Industrial Engineering:

I E 222 Design & Analysis Methods for System Improvements (3-0) Cr. 3

I E 543 Wind Energy Manufacturing (3-0) Cr. 3

I E 634 Computational Optimization (3-0) Cr. 3

Mechanical Engineering:

M E 160 Mechanical Engineering Problem Solving with Computer Applications (2-2) Cr. 3

M E 324L Manufacturing Engineering Laboratory (0-2) Cr. 1

M E 437 Introduction to Combustion Engineering (3-0) Cr. 3

M E 479 Sustainability Science for Engineering Design (3-0) Cr. 3

M E 518 Mechanical Considerations in Robotics (3-0) Cr. 3

M E 523 Creativity and Imagination for Engineering and Design (3-0) Cr. 3

Nuclear Engineering Minor:

NUC E 430 Nuclear Energy and Society (3-0) Cr. 3

IV. COURSES DROPPED:

Bioengineering Minor:

BIOE 201 Introduction to Bioengineering I
 BIOE 202 Introduction to Bioengineering II

Electrical and Computer Engineering:

CPR E 564 Synthesis and Optimization of Digital Circuits
 E E 463 Design of Electrical Systems
 E E 592 Seminar in Electromagnetics, Microwave, and Nondestructive Evaluation

College of Engineering:

ENGR 110 Scholars Program Seminar
 ENGR 210 Scholars Program Seminar: Pillar Knowledge and Skills Development

Industrial Engineering:

I E 408 Interdisciplinary Problem Solving
 I E 409 Interdisciplinary Systems Effectiveness

Mechanical Engineering:

M E 446 Power Plant Design

Materials Science and Engineering:

M S E 553 Physical and Mechanical Properties of Polymers

V. NUMBER, CREDIT, AND TITLE CHANGES:

Agricultural Engineering:

A E 490U number changed to 490W
 A E 590 title changed to: Special Topics in Agricultural & Biosystems Engineering

Aerospace Engineering:

Aer E 243 number changed to 310
 AER E 310 Title changed to: Aerodynamics I: Incompressible Flow
 AER E 311 Title changed to: Aerodynamics II: Compressible Flow
 AER E 422 Title changed to: Vibrations and Aeroelasticity
 AER E 490 Title changed to: Aerospace Engineering Independent Study

Bioengineering Minor:

BioE 490 credits changed 1-3 var to 1-6 var

Chemical Engineering:

Ch E 302 number changed to 202

Mechanical Engineering:

M E 324 credits changed from 4 to 3
 M E 433 Title changed to: Alternative Energy
 M E 449 Title changed to: Internal Combustion Engines

Materials Science and Engineering:

MAT E 334 Title changed to: Electronic & Magnetic Properties of Metallic Materials

VI. COURSES ADDED FOR NONMAJOR GRADUATE CREDIT

Nuclear Engineering Minor:

NUC E 430 Nuclear Energy and Society (3-0) Cr. 3

VII. COURSES DROPPED FOR NONMAJOR GRADUATE CREDIT

None

VIII. SUMMARY OF CHANGES: *Note: a cross-listed course should be counted only once - with the "primary" department or program. So in Section III New Courses and Section IV Courses Dropped, a cross-listed course should be listed only once.*

Summary of Changes					
Department	New	Dropped	Number	Credit	Title
Aerospace	0	0	1	0	4
Agricultural and Biosystems	0	0	1	0	1
Chemical and Biological	2	0	1	0	0
Civil, Constructions and Environmental	0	0	0	0	0
Electrical and Computer	2	3	0	0	0
Industrial and Manufacturing Systems	3	2	0	0	0
Material Science and Engineering	4	1	0	0	1
Mechanical	6	1	0	1	2
College	2	4	0	1	0
Total College of Your College	18	11	3	2	8

IX. Changes since Proposed Change Summary

None

X. JUSTIFICATION FOR NEW COURSES

Summary Table

Program Name	Designator and Course Number	Nonmajor graduate credit		Required in Program		Offered Experimentally			Justification (If not required in program or offered experimentally)
						N	If Yes, latest two offerings		
							Term	Year	
Bioengineering	BIOE 220	N		Y		N			
Chemical Engineering	CH E 160	N		Y		N			
Chemical Engineering	CH E 420	N		N		Y	F	2012	38
Computer Engineering	CPR E 480	N		N		Y	S	2011	25
Engineering Mechanics	E M 566			N		Y	S	2012	17
Industrial Engineering	I E 222	N		N		Y	F	2010	27
Industrial Engineering	I E 543			N		Y	S	2012	10
Industrial Engineering	I E 634			N		Y	S	2012	11

Summary Table

Program Name	Designator and Course Number	Nonmajor graduate credit		Required in Program		Offered Experimentally			Justification (If not required in program or offered experimentally)	
						N	If Yes, latest two offerings			
							Term	Year		Enrollment
Mechanical Engineering	M E 160	N		Y		Y	F S F	2011 2012 2012	229 137 248	
Mechanical Engineering	M E 324L	N		Y		N				
Mechanical Engineering	M E 437	N		N		Y	S	2012	32	
Mechanical Engineering	M E 479	N		N		Y	S	2012	15	
Mechanical Engineering	M E 518			N		Y	S	2012	12	
Mechanical Engineering	M E 523			N		Y	F F	2011 2012	6 8	
Material Science	M S E 557			N		Y	S	2012	10	
Material Science	M S E 601			N		Y	F S F	2011 2012 2012	47 45 54	
Material Science	MAT E 457	N		N		Y	S	2012	3	
Nuclear Engineering	Nuc E 430		Y	N		Y	S	2012	23	

Process:

September-November: FSCC begins review and approval of college reports.

December: Final approval by the Faculty Senate.