

Cover Sheet: Request 12158

BS in Electrical Engineering

Info

Process	Degree Change Credits Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Shannon Chillingworth schill@ece.ufl.edu
Created	12/7/2017 1:26:47 PM
Updated	1/25/2018 4:07:50 PM
Description of request	Reduce total number of credits from 131 to 128.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Electrical and Computer Engineering 011905000	Robert Fox	Changes to reduce EE hours from 131 to 128	1/2/2018
No document changes					
College	Approved	ENG - College of Engineering	Heidi Dublin	Approved by HWCOE Curriculum Committee and Faculty Council.	1/25/2018
Track Changes catalog year 2018 BSEE 128.docx Chem_Dept_Consult.pdf					1/3/2018 1/10/2018
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			1/25/2018
No document changes					
Faculty Senate Steering Committee					
No document changes					
Faculty Senate					
No document changes					
Academic Affairs					
No document changes					
Board of Trustees					
No document changes					
Board of Governors					
No document changes					
Academic Affairs Notified					
No document changes					
Office of the Registrar					
No document changes					
OIPR Notified					
No document changes					

Step	Status	Group	User	Comment	Updated
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Degree|Change_Credits for request 12158

Info

Request: BS in Electrical Engineering

Description of request: Reduce total number of credits from 131 to 128.

Submitter: Shannon Chillingworth schill@ece.ufl.edu

Created: 11/14/2017 4:10:50 PM

Form version: 1

Responses

Degree Name Bachelor of Science- Electrical Engineering

CIP Code 14.1001

Current Total Credits 131

Proposed Total Credits 128

Effective Term Fall

Effective Year 2018

Pedagogical Rationale/Justification The ECE department would like to reduce the total number of credits required for the BSEE degree from 131 credits to 128. The total number of credits will be reduced by removing the requirement to complete "CHM 2046 General Chemistry 2 (GE-P) or CHM 2096 Chemistry for Engineers 2 or Biological Science (GE-B)". After an extensive review of the curriculum, the BSEE curriculum committee determined that this course is not required for the degree.

Impact on Initial Enrollment/Retention/Graduation The department does not anticipate any negative impacts to initial enrollment, retention or time to graduation. The department is hopeful that removing this course will decrease the overall time to degree for BSEE students.

Assessment Data Review Not applicable. This course is not a course in which student learning outcomes are assessed.

Academic Learning Compact and Academic Assessment Plan No modifications required.

Chillingworth,Shannon M

From: Robert M. Fox <fox@ece.ufl.edu>
Sent: Wednesday, January 10, 2018 4:12 PM
To: Chillingworth,Shannon M
Cc: Fox,Robert M
Subject: Fwd: EE removing Chem 2 as required course

FYI

Robert Fox
Associate Professor & Associate Chair
Department of Electrical and Computer Engineering
University of Florida
PO Box 116130
1064 Center Drive, 537 NEB
Gainesville, FL 32611-6130

Tel. (352) 392-2543
FAX (352) 392-8381
Email: fox@ece.ufl.edu

Begin forwarded message:

From: "Smith, Ben W" <bwsmith@chem.ufl.edu>
Subject: Re: EE removing Chem 2 as required course
Date: January 10, 2018 at 3:22:22 PM EST
To: "Fox,Robert M" <fox@ece.ufl.edu>

Hi Rob,

Thanks, I've let our associate chair know and agree, it won't have much effect on our end.

Regards,

Ben

Benjamin W. Smith
Department of Chemistry
Box 117200
CLB 207
University of Florida
Gainesville, FL 32611

352-392-7016

From: Robert M. Fox <fox@ece.ufl.edu>
Sent: Wednesday, January 10, 2018 12:05 PM
To: Smith, Ben W
Cc: Fox, Robert M
Subject: EE removing Chem 2 as required course

Hi, Ben.

Not sure if you're the best person to send this to, so if you know of anyone who would care, please forward this info to them.

To reduce the number of credits needed to get an EE degree we are about to remove a requirement that all EE students take CHM 2046 General Chemistry 2, CHM 2096 Chemistry for Engineers 2 or Biological Science. It shouldn't have much of an impact on Chemistry because most of our students were taking a course called "Man's Food" instead of Chemistry.

Just thought I'd let y'all know.

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Associate Professor & Associate Chair
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University of Florida
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Electrical Engineering

Electrical engineering is concerned with all phases and development of the transmission and utilization of electric energy and intelligence. From communication systems to electronic components that run computers and motor vehicles, electrical engineers design products and systems that meet the needs of today and tomorrow's electrical and electronic systems.

About this Major

- **College:** [Herbert Wertheim College of Engineering](#)
- **Degree:** Bachelor of Science in Electrical Engineering
- **Credits for Degree:** ~~134~~ 128
- [Academic Learning Compact](#)
- [Additional Information](#)

- [Related Electrical Engineering Programs](#)

To graduate with this major, students must complete all university, college, and major requirements.

[Critical Tracking Model Semester Plan](#)

Overview

While it is essential that electrical engineers understand the fundamentals of their chosen fields, they must also understand the role that other branches of engineering play in completed work. The curriculum provides a foundation in basic engineering as well as depth and breadth in electrical engineering and sufficient electives to allow specialization in academic areas including:

- Electronic Devices and Circuits
- Electromagnetics, Power and Photonics
- Computers, Communications and Systems and Controls

The curriculum also prepares an engineer for professional licensure.

The department's extensive laboratory facilities and varied research programs assist in both experimental and theoretical approaches to electrical and computer engineering.

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Admission Requirements

It is the department's policy to admit the best-qualified students as demonstrated by academic achievement.

To be admitted, a student must have an overall 2.5 grade point average in critical tracking courses, based on the first two attempts in eight professional courses and have earned a minimum grade of C in each course of Calculus 1, Calculus 2, Calculus 3, Physics with Calculus 1, Physics with Calculus 2, Differential Equations and General Chemistry. Only the first two attempts (including withdrawals **and drops**) in each course will be considered for admission to or retention in the department.

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Department Requirements

A minimum grade of C is required in any course transferred into the junior-senior years from another institution.

Courses marked below with a * must be completed with minimum grade of C. For a course to be used as a prerequisite for an EEE/EEL-prefixed course, a minimum grade of C is required in the prerequisite course. Any 3000/4000 level EEL/EEE-prefixed course not taken to satisfy the breadth or depth requirement can be applied as EE technical elective, excluding EEL 3003, which does not apply toward degree requirements.

ECE majors must have an overall 2.0 GPA in all ECE courses to meet degree requirements.

A student must complete both EEL 3111C and EEL 3701C before taking any 4000-level EEE or EEL course.

Electrical Engineering majors must have EEL3923C Design 1 completed or in progress to apply for the IPPD program.

For more information on the IPPD program, <http://www.ippd.ufl.edu/>

Any course taken to satisfy a degree requirement (general education, required course or technical elective), with the exception of [EGN4912](#), EEL 4948 and 4949, cannot be taken S-U.

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An electrical engineering student whose cumulative, upper-division or department grade point average falls below 2.0 or whose pre-professional grades do not meet department admission requirements will be placed on academic probation and be required to prepare a probation contract with an ECE academic advisor. If a student is not making normal academic progress, he or she will be placed on academic probation.

Students normally are given two terms in which to remove their deficit points. Students who do not satisfy the conditions of the first term of probation may be dismissed from the department.

All graduating seniors must complete an exit interview with their advisor before graduating.

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Educational Objectives

The objectives of the EE program at UF are to prepare students for

- Successful careers in a dynamic industry that is global, multidisciplinary and evolving; and/or for admission to, and excelling in, the top graduate programs in the world
- Good citizenship by engaging in ethical engineering for the betterment of society and the world.

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Goals

The baccalaureate program prepares students to embark upon professional careers in electrical and computer engineering or to begin graduate study. The department's educational objectives are consistent with the ABET general criteria for accrediting programs in engineering in the United States.

Mission

The department offers undergraduate and graduate programs in electrical and computer engineering and conducts research to serve the needs of Florida and the nation.

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Critical Tracking

Critical Tracking records each student's progress in courses that are required for entry to each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida [Common Course Prerequisites](#) may be used for transfer students.

Semester 1

- Complete 1 of ~~8-7~~ tracking courses. MAC 2311, MAC 2312, MAC 2313, MAP 2302, PHY 2048, PHY 2049, and CHM 2045 or CHM 2095; ~~CHM 2046 or CHM 2096 or an approved biological sciences course~~ must be completed with minimum grade of C in each course within two attempts (including withdrawals).
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course with the appropriate minimum grade within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 3

- Complete 2 additional critical-tracking courses with the appropriate minimum grades within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4

- Complete 2 additional critical-tracking courses with the appropriate minimum grades within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete ~~all remaining 8-7~~ critical-tracking courses with the appropriate minimum grades within two attempts
- 2.5 GPA required for all critical-tracking courses

- 2.0 UF GPA required

Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

Semester 1	Credits
CHM 2045 General Chemistry 1 or CHM 2095 Chemistry for Engineers 1 State Core GE-B/P	3
CHM 2045L General Chemistry 1 Laboratory <i>GE-P</i>	1
IUF 1000 What is the Good Life <i>GE-H</i>	3
MAC 2311 Analytic Geometry and Calculus 1 State Core GE-M	4
Social and Behavioral Sciences State Core GE-S Composition State Core GE-C (GRWR)	3
Total	14
Semester 2	Credits
CHM 2046 General Chemistry 2 (GE-P) or CHM 2096 Chemistry for Engineers 2 or Biological Science (GE-B) Computer Programing (see list below)	3
ENC 3246 Professional Communication for Engineers State Core GE-C Social and Behavioral Sciences GE-S (GRWR)	3
MAC 2312 Analytic Geometry and Calculus 2 <i>GE-M</i>	4
PHY 2048 Physics with Calculus 1 <i>GE-P</i>	3
PHY 2048L Laboratory for Physics with Calculus 1 <i>GE-P</i>	1
Total	14
Semester 3	Credits
MAC 2313 Analytic Geometry and Calculus 3 <i>GE-M</i>	4
PHY 2049 Physics with Calculus 2 <i>GE-P</i>	3
PHY 2049L Laboratory for Physics with Calculus 2	1

Computer Programming elective <u>EEL3701C Digital Logic and Computer Systems*</u>	3 <u>4</u>
Humanities	3 <u>2</u>
State Core GE-H, N; WR <u>EEL3000 Introduction to Electrical and Computer Engineering*</u>	
Total	14
Semester 4	Credits
EEL 3111C Circuits 1 [♦]	4
EEL 3701C Digital Logic and Computer Systems* [♦] <u>EEL3135 Introduction to Signals and Systems*</u>	4
MAS 3114 Computational Linear Algebra	3
Social Behavior Diversity	3
GE-S/D <u>MAP2302 Elementary Differential Equations</u>	
Total	14
Summer	Credits
EEL 3135 Introduction to Signals and Systems* [♦] <u>ENC3246 Professional Communications for Engineers State Core GE-C (GRWR)</u>	4 <u>3</u>
MAP 2302 Elementary Differential Equations <u>EEL3008 Physics of Electrical Engineering*</u>	3 <u>3</u>
STA 3032 Engineering Statistics	3
Total	10 <u>9</u>
Semester 5	Credits
EEL 3000 Introduction to Electrical and Computer Engineering* [♦] <u>Electrical Engineering Breadth 1*</u>	2 <u>4</u>
EEL 3008 Physics of Electrical Engineering* [♦] <u>EEL3112 Circuits 2*</u>	3
EEL 3744C Microprocessor Applications [♦]	4
Composition	3
GE-C; WR <u>Social and Behavioral Sciences State Core GE-S, GE-D</u>	
Total	12 <u>14</u>
Semester 6	Credits
EEL 3112 Circuits 2* [♦] <u>Humanities State Core GE-H (GRWR) GE-N</u>	3
Electrical Engineering Breadth <u>electives #1 and #2 Electrical Engineering Breadth 2 & 3*</u>	8
<u>Interdisciplinary</u> elective #1	3
<u>Electrical Engineering Technical Courses (see below)</u>	<u>3</u>
Total	14 <u>17</u>

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Semester 7	Credits
Electrical Engineering Breadth elective #3 <u>EEL3923C Electrical Engineering Design 1*</u>	4 <u>3</u>
<u>Electrical Engineering Depth</u> elective #1*	3
<u>Electrical Engineering Technical</u> elective	5 <u>7</u>
<u>Interdisciplinary</u> elective #2	3
Total	15 <u>16</u>
Semester 8	Credits
EEL 3923C Electrical Engineering Design 1 <u>EEL4924C Electrical Engineering Design 2*</u>	3
<u>Electrical Engineering Depth</u> elective #2*	3
<u>Electrical Engineering Technical</u> elective	3 <u>7</u>
<u>Interdisciplinary</u> elective #3	3
Total	12 <u>16</u>
Semester 9	Credits
EEL 4924C Electrical Engineering Design 2*	3
Electrical Engineering Technical elective	9
Total	12

† Completed with a minimum grade of C. In order to use a course as a prerequisite course for course used as a prerequisite for an EEE/EEL-prefixed course, a minimum grade of C is required in the prerequisite course. Any 3000/4000-level EEL/EEE-prefixed course not taken to satisfy the breadth or depth requirement can be applied as an EE technical elective, excluding EEL 3003, which does not apply toward degree requirements.

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Approved Courses

Computer Programming: choose 1	
COP 2271 Computer Programming for Engineers, C++ section, 2 credits, and COP 2271L Computer Programming for Engineers Laboratory, C++, 1 credit	3
COP 3275 Computer Programming Using C	3
EEL 3834 Programming for Electrical and Computer Engineers	3
Electrical Engineering Breadth: choose 3	
EEL 3211C Basic Electric Energy	4
EEE 3308C Electronic Circuits 1	4
EEE 3396C Solid State Devices	4
EEL 3472C Electromagnetic Fields & Apps 1	4

EEE 4260C Bioelectrical Systems	4
EEL 4511C Real Time Digital Signal Process	4
EEL 4514C Communications	4
EEL 4657C Linear Controls	4
EEL 4712C Digital Design	4

Electrical Engineering Depth: 6 credits

Choose 2 courses from 2 different areas. See academic advisor for the approved lists. Choose one EE Depth course from 2 different EE Breadth areas. Please see Breadth-Depth Chart at <https://www.ece.ufl.edu/sites/default/files/pictures/EE%20Curriculum%20breadth-depth%20chart.pdf>

Interdisciplinary Technical Electives: ~~3~~ courses/9 credits

Any 3000-level or above non-ECE course in the Herbert Wertheim College of Engineering or, from the Math Department with an MAA, MAD, MAP, MAS prefix, or from the Physics Department with the exception of PHY 3400. Students are able to select courses that are 3000-4000 level from the Biology/Biochemistry courses (prefixes of BSC, BCH, CHM, PCB, and ZOO); Mathematics courses (prefixes of MAA, MAD, MAP, and MAS); Physics courses (prefixes of PHY and PHZ). Students are able to count CHM2046, CHM2210, and CHM2211. Students are able to select courses that are 3000-4000 level from HWCOE (non-ECE) courses. Please see the list of Interdisciplinary Electives at <https://www.ece.ufl.edu/sites/default/files/pictures/Interdisciplinary%20Electives%202017-2018.pdf>

Electrical Engineering Technical Electives: 17 credits

Any 3000 level or above course in ECE, with the exception of EEL 3003 and EEL3008. Please see list of Electrical Engineering Technical Electives at <https://www.ece.ufl.edu/sites/default/files/pictures/Electrical%20Engineering%20Technical%20Electives%202015-2017.pdf>