Electrical Engineering - Communications and Signal Processing Track (B.S.E.E.)

College of Engineering and Computer Science

Department of Electrical and Computer Engineering

Harris Corp. Engineering Center, Room: 346

Email: undergraduate@ece.ucf.edu

Dr. Parveen Wahid
Charlee Hilton-Brown
Phone: 407-823-3327

Admission Requirements

■ Students wanting to declare a major in an engineering discipline must be in good academic standing and must have a "C" (2.0) or better in each of the following courses or their equivalents: MAC 2311C, MAC 2312, PHY 2048C, and CHS 1440 or CHM 2045C.

■ Students wanting to declare a major in an engineering discipline must complete a change of major in the term of completion of the final pending prerequisite course(s) listed above.

Degree Requirements

■ Students in the Electrical Engineering major are expected to make consistent good progress toward their degrees to remain enrolled in, or eligible for, any major in the College of Engineering and Computer Science (CECS) or the College of Optics and Photonics (COP).

Therefore, any student majoring in Electrical Engineering who repeats any UCF course and does not earn a grade of "C" (2.0) or better on the second attempt will be placed on Lack of Progress Probation and remain on Lack of Progress Probation as long as the student is enrolled in a CECS or COP major. If a student on Lack of Progress Probation does not receive a grade of "C" (2.0) or better by the third attempt in the same UCF course, the student will be excluded from all CECS and COP majors. Any student majoring in Electrical Engineering who has accumulated 7 or more unsuccessful attempts (i.e., grades below "C" (2.0) and withdrawals) over all courses taken at UCF will be placed on Lack of Progress Probation and remain on Lack of Progress Probation as long as the student is enrolled in a CECS or COP major. If a student on Lack of Progress Probation has a tenth unsuccessful attempt over all courses taken at UCF, the student will be excluded from all CECS and COP majors.

■ A student who is excluded from CECS and COP majors may seek readmission to a major in CECS or COP after at least one full year has passed since exclusion. Readmission is not automatic and is dependent upon a high probability of success after readmission. Any student who is readmitted to the Electrical Engineering major will be subject to all probation conditions that applied at the time of exclusion.

1. UCF General Education Program (GEP) (38 hrs)

The UCF General Education Program (GEP) is described in the section, General Education Program, found elsewhere in this catalog. Engineering students should closely study the requirements of the UCF GEP and the allowable substitutions detailed in paragraphs A through E below to minimize excess hours. Students transferring to UCF from within the Florida College System or State University System should complete the GEP and the Common Program Prerequisites before transferring.

A: Communication Foundations (9 hrs)

Required ENC 1101 Composition I 3 hrs
Required ENC 1102 Composition II 3 hrs

Select 1: 3 hrs

Preferred SPC 1603C Fundamentals of Technical Presentations or
Suggested SPC 1608 Fundamentals of Oral Communication 3 hrs

B: Cultural & Historical Foundations (9 hrs)
Select two courses from Historical Foundations 6 hrs
Select one class from Cultural Foundations 3 hrs

C: Mathematical Foundations (7 hrs)

Required MAC 2311C Calculus with Analytic Geometry I 4 hrs
Required STA 3032 Probability and Statistics for Engineers 3 hrs

D: Social Foundations (6 hrs)
Select 1: 3 hrs

Prefer ECO 2023 Principles of Microeconomics 3 hrs
Prefer ECO 2033 Principles of Macroeconomics 3 hrs
Select one class from Social Foundations 3 hrs

E: Science Foundations (7 hrs)

Required PHY 2048C General Physics Using Calculus I 4 hrs
Select one course from Science Foundations 3 hrs

2. Common Program Prerequisites (CPP) (19 hrs)

These courses are specifically required for all engineering students of the Florida State University System. CPP courses are also available at other Florida post-secondary schools and may be transferred directly to UCF programs. To enroll in EE major courses, a 2.0 (C or better) in each course is required.

MAC 2311C Calculus with Analytic Geometry I GEP
MAC 2312 Calculus with Analytic Geometry II 4 hrs
MAC 2313 Calculus with Analytic Geometry III 4 hrs
PHY 2048C General Physics Using Calculus I GEP
PHY 2049C General Physics Using Calculus II 4 hrs
MAP 2302 Ordinary Differential Equations I 3 hrs

Select 1: 4 hrs

1 CHS 1440 Principles of Chemistry or 4 hrs
1 CHM 2045C Chemistry Fundamentals I 4 hrs
1 Preferred

3. Core Requirements: Basic Level (2 hrs)

The College of Engineering and Computer Science requires all engineering students to achieve a minimum 2.250 GPA in completing these courses, together with the courses required for the major, technical elective courses, and with the senior design courses. Independent study courses generally do not satisfy major requirements.

EGS 1006C Introduction to the Engineering Profession 1 hr
EGN 1007C Engineering Concepts and Methods 1 hr

4. Core Requirements: Advanced Level (53 hrs)

Courses Required for the Engineering Core 3 hrs
STA 3032 Probability and Statistics for Engineers GEP
PHY 3101 General Physics Using Calculus III 3 hrs

Courses Required for the Major 50 hrs

EGN 3211 Engineering Analysis and Computation 3 hrs
EEL 3021 Introduction to Applied Randomness for Engineers 3 hrs
EEL 3004 Electrical Networks 3 hrs
EEL 3123C Networks and Systems 3 hrs
EES 3307C Electronics I 4 hrs
EES 3342C Digital Systems 3 hrs
EEL 3801C Computer Organization 4 hrs
EEL 3926L Junior Design 1 hr
EEL 3552C Signal Analysis and Analog Communication 4 hrs
EEL 4750 Digital Signal Processing Fundamentals 3 hrs
EEL 4515C Fundamentals of Digital Communication 4 hrs
EEL 4742C Embedded Systems 3 hrs

Junior Level Electives 6 hrs
EEL 3470 Electromagnetic Fields or 3 hrs
EEL 3657 Linear Control Systems or 3 hrs
EEE 3350 Semiconductor Devices I 3 hrs

Senior Level Electives 6 hrs
EEL 4140C Analog Filter Design or 4 hrs
EEL 4518 Satellite Communications or 3 hrs
EEL 4781 Computer Communication Networks or 3 hrs
EES 5513 Digital Signal Processing Applications or 3 hrs
EEE 5542 Random Processes I or 3 hrs

UNIVERSITY OF CENTRAL FLORIDA

Undergraduate Catalog 2017-2018
Each student should seek academic advisement before registering for classes each semester to minimize excess hours and to ensure that satisfactory academic progress is being maintained.

The Electrical Engineering program offers the Accelerated BS/MS Program to students of high academic standing. This program allows up to twelve hours to be shared between the BS and MS degrees. See your department or the Accelerated Program section in the back of this catalog for more information.

Transfer Notes
Courses transferred must be formally evaluated for equivalency credit. The student must provide all supporting information with his/her petition for this evaluation.

EGS 1006C and EGN 1007C are required courses for incoming freshmen only. The credits for these two courses (one hour each) may, with prior approval of the department academic advisor, be moved to the Restricted Elective area.

Acceptable Substitutes for Transfer Courses
None

Plan of Study

Freshman Year - Fall 15 hrs
EGS 1006C Introduction to the Engineering Profession 1 hr
MAC 2311C Calculus with Analytic Geometry I 4 hrs
GEP- Historical Foundation 3 hrs

Select 1: 3 hrs
1 SPC 1603C Fundamentals of Technical Presentations
or SPC 1608 Fundamentals of Oral Communication 3 hrs

Select 1: 4 hrs
CHS 1440 Principles of Chemistry or 4 hrs
CHM 2045C Chemistry Fundamentals I 4 hrs

1 Preferred

Freshman Year - Spring 15 hrs
EGN 1007C Engineering Concepts and Methods 1 hr
MAC 2312C Calculus with Analytic Geometry II 4 hrs
PHY 2049C General Physics Using Calculus II 3 hrs
ENC 1101 Composition I 3 hrs

Select 1: 4 hrs
ECO 2013 Principles of Macroeconomics or 3 hrs
ECO 2023 Principles of Microeconomics 3 hrs

Sophomore Year - Fall 14 hrs
ENC 1102 Composition II 3 hrs
PHY 2049C General Physics Using Calculus II 4 hrs
MAC 2313C Calculus with Analytic Geometry III 4 hrs
EGN 3211 Engineering Analysis and Computation 3 hrs

Sophomore Year - Spring 15 hrs
PHY 3101 General Physics Using Calculus III 3 hrs
EEL 304C Electrical Networks 3 hrs
MAP 2302 Ordinary Differential Equations I 3 hrs
EE 3342C Digital Systems 3 hrs
GEP- Cultural Foundation 3 hrs

Sophomore Year - Summer 9 hrs
EEL 3123C Networks and Systems 3 hrs
STA 3032 Probability and Statistics for Engineers 3 hrs
GEP- Social Foundation 3 hrs

Junior Year - Fall 17 hrs
EEL 3801C Computer Organization 4 hrs
GEP- Science Foundation 3 hrs
EEL 3552C Signal Analysis and Analog Communication 4 hrs
Junior Level Elective 3 hrs
Junior Level Elective 3 hrs

Junior Year - Spring 17 hrs
EEL 3307C Electronics I 4 hrs
EEL 4750 Digital Signal Processing Fundamentals 3 hrs
EEL 4742C Embedded Systems 3 hrs
EEL 3926L Junior Design 1 hr
EEL 3021 Introduction to Applied Randomness for Engineers 3 hrs
GEP- Historical Foundation 3 hrs
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<td>EEL 4914 Senior Design I</td>
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Program Academic Learning Compacts

- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at:
  http://www.oeas.ucf.edu/alc/academic_learning_compacts.htm