UCF Degree Programs

Computer Engineering (B.S.Cp.E.)
College of Engineering and Computer Science
Department of Electrical Engineering and Computer Science, Harris Corp. Engineering Center, Room: 346
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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 Computer Engineering major may not accumulate five or more grades of W, WP, or WF at UCF and 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 Computer Engineering who accumulates three grades of W, WP, or WF at UCF will be placed on W Probation and will remain on W Probation as long as the student is enrolled in a CECS or COP major. If a student on W Probation receives a fifth grade of W, WP, or WF, the student will be excluded from all CECS and COP majors.

Students in the Computer 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 Computer 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 Computer 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 Computer 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 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: SPC 1603C Fundamentals of Technical Presentations or 3 hrs
   - 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: ECO 2013 Principles of Microeconomics or 3 hrs
   - Select one course from Social Foundations 3 hrs

   E: Science Foundations (7 hrs)
   - Required PHY 2048C Physics for Engineers & Scientists I 4 hrs
   - Required PHY 2049C Physics for Engineers and Scientists II 4 hrs
   - Select 1: PHY 2050C Principles of Chemistry or 4 hrs
   - Select 2 CHS 1440 Principles of Chemistry or 4 hrs
   - CHM 2045C Chemistry Fundamentals I 4 hrs

   1 A "C" (2.0) or better is required in this course.
   2 Preferred

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 CpE major courses, a 2.0 (C or better) in each course is required for those course indicated.
   - See “Common Prerequisites” in the Transfer and Transitions Services section for more information.

   1 MAC 2311C Calculus with Analytic Geometry I GEP
   1 MAC 2312 Calculus with Analytic Geometry II 4 hrs
   1 MAC 2313 Calculus with Analytic Geometry III 4 hrs
   1 MAP 2302 Ordinary Differential Equations I 3 hrs
   1 PHY 2048C Physics for Engineers & Scientists I GEP
   1 PHY 2049C Physics for Engineers and Scientists II 4 hrs

   1 Select 1: Required PHY 2048C Physics for Engineers & Scientists I 3 hrs
   1 Select 2: Required PHY 2049C Physics for Engineers and Scientists II 3 hrs

3. Core Requirements: Basic Level (2 hrs)
   - The College of Engineering and Computer Science requires all engineering students to achieve a minimum 2.25 GPA in completing these courses, together with the courses required for the major in section 4 below, technical elective courses listed in section 5 below and with the senior design courses listed in section 6 below. Independent study courses generally do not satisfy major requirements.

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

4. Core Requirements: Advanced Level (57 hrs)
   - Engineering Core 6 hrs
   - EGN 3310 Engineering Analysis-Statics 3 hrs
   - STA 3032 Probability and Statistics for Engineers GEP
   - Select 1: 3 hrs
   - EGN 3321 Engineering Analysis-Dynamics or 3 hrs
   - EGN 3338 Thermo-Fluids-Heat Transfer 3 hrs

   1 Preferred
Courses Required for the Major 48 hrs
- COT 3100C Introduction to Discrete Structures 3 hrs
- COP 3502C Computer Science I 3 hrs
- COP 3503C Computer Science II 3 hrs
- COP 3330 Object Oriented Programming 3 hrs
- COP 4331C Processes for Object-Oriented Software Development 3 hrs
- EEL 3004C Electrical Networks 3 hrs
- EEL 3123C Networks and Systems 4 hrs
- EEE 3307C Electronics I 4 hrs
- EEE 3342C Digital Systems 3 hrs
- EEL 3801C Computer Organization 3 hrs
- EEL 4742C Embedded Systems 4 hrs
- EEL 4768 Computer Architecture 3 hrs
- EEL 4781 Computer Communication Networks 3 hrs
- COP 4600 Operating Systems 3 hrs
- EGN 3211 Engineering Analysis and Computation 3 hrs

5. Restricted Electives (9 hrs)
- Technical electives are available in the BSCpE program to address specific student interests in a variety of technical areas such as Software Engineering. Students should consult with their academic advisor for the identification of courses which are approved technical electives and the terms when specific courses of this type are to be offered.

6. Capstone Requirements (6 hrs)
- EEL 4914 Senior Design I 3 hrs
- EEL 4915L Senior Design II 3 hrs

7. Foreign Language Requirements
- Admissions
  - Two years of one foreign language in high school, or one year of one foreign language in college (or equivalent proficiency exam) prior to graduation.
- Graduation
- None

9. Additional Requirements
- Computer engineering students must earn at least 32 hours in residence at UCF.
- 24 of the 32 Residency hours must be at the 3000-5000 level courses taken from the EECS Department at UCF and applicable to the degree program.

10. Required Minors
- None

11. Departmental Exit Requirements
- CECS encourages all engineering students to take the Fundamentals Exam during their senior year.

12. University Minimum Exit Requirements
- A 2.0 UCF GPA
- 60 semester hours earned after CLEP awarded
- 48 semester hours of upper division credit completed
- 30 of the last 39 hours of course work must be completed in residency at UCF.
- A maximum of 45 hours of extension, correspondence, CLEP, Credit by Exam, and Armed Forces credits permitted.
- Complete the General Education Program, the Gordon Rule, and nine hours of Summer credit.

Total Semester Hours Required 128

Honors In Major
- None

Related Programs
- Computer Science
- Electrical Engineering
- Information Technology
- Mathematics - Engineering/Physics Track
- Physics

Certificates
- None

Related Minors
- Information Technology
- Intelligent Robotic Systems (IRS) - Interdisciplinary
- Engineering Leadership
- Mathematics
- Physics

Advising Notes
- Each engineering student should meet regularly with an academic advisor in the major department.
- The Computer 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.
- 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.

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 (128 hrs)
- The tentative course schedule listed below is a guide for those students who plan on completing their degree in four years. All engineering students should meet with their faculty advisor to develop and maintain an appropriate plan of study.
- Freshman Year - Fall
  - EGS 1006C Introduction to the Engineering Profession 1 hr
- MAC 2312 Calculus with Analytic Geometry I 4 hrs
- EGP- Historical Foundation 3 hrs
  - 1 SPC 1603C Fundamentals of Technical Presentations 3 hrs
  - or SPC 1608 Fundamentals of Oral Communication 3 hrs
- Select 1 4 hrs
  - CHS 1440 Principles of Chemistry or 4 hrs
  - or CHM 2045C Chemistry Fundamentals I 4 hrs
- Freshman Year - Spring
  - EGN 1007C Engineering Concepts and Methods 1 hr
  - ENC 1101 Composition I 3 hrs
  - MAC 2312 Calculus with Analytic Geometry II 4 hrs
  - PHY 2048C Physics for Engineers & Scientists I 4 hrs
- Select 1 4 hrs
  - EEL 3004C Electrical Networks 3 hrs
  - or EEE 3342C Digital Systems 3 hrs
- Freshman Year - Summer
  - MAP 2302 Ordinary Differential Equations I 3 hrs
  - ENC 1102 Composition II 3 hrs
  - or EEG 3304C Electrical Networks 3 hrs
  - or EEE 3342C Digital Systems 3 hrs
  - or MAP 2302 Ordinary Differential Equations I 3 hrs

Sophomore Year - Fall
- EEL 3801C Computer Organization 3 hrs
- COP 3330 Object Oriented Programming 3 hrs
- EGP- Historical Foundation 3 hrs
  - 1 Preferred

Sophomore Year - Spring
- EEL 3004C Electrical Networks 3 hrs
- EEE 3342C Digital Systems 3 hrs
- MAP 2302 Ordinary Differential Equations I 3 hrs
- ENC 1102 Composition II 3 hrs
- EGP- Science Foundation 3 hrs

Sophomore Year - Summer
- EEL 3123C Networks and Systems 4 hrs
- EEL 3801C Computer Organization 3 hrs
- EGP- Cultural Foundation 3 hrs
Junior Year - Fall
- COP 3330 Object Oriented Programming 3 hrs
- COP 3502C Computer Science I 3 hrs
- STA 3032 Probability and Statistics for Engineers 3 hrs
- EEE 3307C Electronics I 4 hrs
- Select 1: 3 hrs
  - EGN 3321 Engineering Analysis-Dynamics or 3 hrs
  - EGN 3358 Thermo-Fluids-Heat Transfer 3 hrs

Junior Year - Spring
- COP 3503C Computer Science II 3 hrs
- EEL 4742C Embedded Systems 4 hrs
- EEL 4768 Computer Architecture 3 hrs
- GEP- Social Foundation 3 hrs

Senior Year - Fall
- COP 4331C Processes for Object-Oriented Software Development 3 hrs
- EEL 4914 Senior Design I 3 hrs
- Restricted Elective 3 hrs
- Restricted Elective 3 hrs
- Select 1: 3 hrs
  - ECO 2013 Principles of Macroeconomics or 3 hrs
  - ECO 2023 Principles of Microeconomics 3 hrs

Senior Year - Spring
- COP 4600 Operating Systems 3 hrs
- EEL 4915L Senior Design II 3 hrs
- EEL 4781 Computer Communication Networks 3 hrs
- Restricted Elective 3 hrs

Program Academic Learning Compacts
- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at:
  http://www.oelas.ucf.edu/academiclearningcompacts.html

Equipment Fees
- Part-Time Student: $42 per term
- Full-Time Student: $84 per term