U peanut 0 Degree Programs

Civil Engineering (B.S.C.E.)
College of Engineering and Computer Science
Department of Civil, Environmental, and Construction Engineering, Engineering II, Room: 211

http://www.cece.ucf.edu
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Dr. Kevin Mackie, kevin.mackie@ucf.edu
Phone: 407-823-2841

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 or CHM 2040 AND CHM 2041.
- 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 (128 hrs)
- The College of Engineering and Computer Science requires all engineering students to achieve a minimum 2.25 GPA in completing the courses from section 3 Basic Core Requirements, section 4 Advanced Core Requirements, section 5 Restricted Electives and section 6 Capstone Requirements listed below. Independent study courses generally do not satisfy major requirements.
- A "C" (2.0) or better is required in each pre-requisite course in section 2 Common Program Prerequisites, section 4 Advanced Core Requirements, and section 6 Capstone Requirements.
- Students in the Civil 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 Civil 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 Civil 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 Civil 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 Systems 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
- Suggested SPC 1603C Fundamentals of Technical Presentations 3 hrs

B: Cultural & Historical Foundations (9 hrs)
- Select two courses from Historical Foundations 6 hrs
- Select one course from Cultural Foundations - Suggested MUL 2010, PHI 2100, or THE 2000

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 one class from Social Foundation Group 1 3 hrs
- Select one class from Social Foundation Group 2 3 hrs

E: Science Foundations (7 hrs)
- Required PHY 2048C General Physics Using Calculus I 4 hrs

Science Foundation 2 3 hrs
- Required EVR 1001 Introduction to Environmental Science or
- Required GEO 1200 Physical Geography or
- Required GEO 2370 Resources Geography or
- Required GLY 1030 Geology and Its Applications 3 hrs

Select one of the following sequences of courses:
- Preferred course
  - CHS 1440 Principles of Chemistry 4 hrs
- or - First alternative: Select all of the following:
  - CHM 2040 Chemistry Fundamentals IA and
  - CHM 2041 Chemistry Fundamentals IB 3 hrs
- or - Second alternative
  - CHM 2045C Chemistry Fundamentals I 4 hrs

3. Core Requirements: Basic Level (2 hrs)
- EGS 1006C Introduction to the Engineering Profession 1 hr
- EGN 1007C Engineering Concepts and Methods 1 hr

Basic Science
- EVR 1001 Introduction to Environmental Science or GEP 1 hr
- GEO 1200 Physical Geography or GEP 1 hr
- GEO 2370 Resources Geography or GEP 1 hr
- GLY 1030 Geology and Its Applications GEP 1 hr

4. Core Requirements: Advanced Level (60 hrs)
- 1 EGN 3310 Engineering Analysis-Statics 3 hrs
- 1 EGN 3321 Engineering Analysis-Dynamics 3 hrs
- 1 EGN 3331C Mechanics of Materials 3 hrs
- 1 EGN 3613 Engineering Economic Analysis 2 hrs
- 1 ENV 3001 Environmental Engineering 3 hrs
- 1 ECE 4003 Introduction to the Construction Industry 3 hrs
- 1 STA 3032 Probability and Statistics for Engineers 3 hrs
- 1 CGN 3700C Civil Engineering Measurements 2 hrs
- 1 CGN 3521C Civil Engineering Materials 3 hrs
- 1 CEG 4011C Geotechnical Engineering I 4 hrs
- 1 CES 4100C Structural Analysis I and Lab 4 hrs
- 1 CWR 3201 Engineering Fluid Mechanics 3 hrs
- TTE 3810 Highway Engineering 3 hrs
UCF Degree Programs

CGN 3405  Applied Numerical Methods for Civil Engineering  3 hrs
CWR 4202C  Hydraulics  3 hrs

1 A “C” (2.0) or better is required in this course.

Civil Engineering Depth Areas  12 hrs
■ Select 2 of the following 5 sequences to complete

Geotechnical:  6 hrs
CEG 4012  Geotechnical Engineering II and 3 hrs
CWR 4124  Hydrogeology 3 hrs

Water Resources:  6 hrs
CWR 4120  Hydrology 3 hrs
CWR 4124  Hydrogeology 3 hrs

Transportation:  6 hrs
TTE 4274  Transportation Engineering Systems and 3 hrs
TTE 4300  Transportation Analytics 3 hrs

Structures:  6 hrs
CES 4605  Steel Structures and 3 hrs
CES 4702  Reinforced Concrete Structures 3 hrs

Mechanics:  6 hrs
EGN 3343  Thermodynamics and 3 hrs
CES 4205  Structural Mechanics 3 hrs

Civil Engineering Depth Electives  6 hrs
■ Take any of the courses not taken to complete required sequences above OR from the following list:

Environmental:
ENV 4531  Environmental Engineering Unit Operations & Processes or 3 hrs
ENV 4561  Advanced Environmental Engineering Operations & Processes 3 hrs

Construction:
CCE 4034  Construction Methods 3 hrs
CCE 4004  Construction Estimating and Scheduling or 3 hrs

5. Restricted Electives  (3 hrs)
■ Students should consult the CECE website and their assigned academic advisor for a list of the approved technical electives and the terms when specific courses of this type are to be offered.

6. Capstone Requirements  (6 hrs)
■ Senior Design Courses

Design Specialization  3 hrs
1 CEG 4801C  Geotechnical Engineering Design or 3 hrs
1 CES 4743C  Structural Design or 3 hrs
1 CWR 4812C  Water Resources Design or 3 hrs
1 TTE 4460C  Urban Systems Design 3 hrs
CGN 4808C  CECE Capstone Design 3 hrs

1 A “C” (2.0) or better is required in this course.

7. Foreign Language Requirements

Admissions
■ Two years of foreign language in high school, or one year of foreign language in college (or equivalent proficiency exam) prior to graduation.

Graduation
■ None
8. Electives
■ None

9. Additional Requirements
■ Civil engineering students must take the Fundamentals of Engineering (FE) Exam during their Senior year. Applications must be received by the Florida Board of Professional Engineers approximately 6 months in advance of your exam date.

10. Required Minors
■ None
11. Departmental Exit Requirements
■ None
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
■ Construction Engineering
■ Environmental Engineering

Certificates
■ None

Related Minors
■ Mathematics
■ Engineering Leadership

Advising Notes
■ Each engineering student is assigned a qualified engineering academic advisor in the department of his/her major. 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 Civil Engineering program offers the opportunity for exceptionally well qualified undergraduates to enter directly into the PhD program after completion of an appropriate BS degree. This option allows outstanding undergraduates to begin planning a research program with a specific faculty advisor even before finishing the BS, and may allow completion of the PhD in a shorter time period than by taking a separate Masters followed by the PhD.

Transfer Notes
■ Courses transferred must be formally evaluated for equivalency credit. The student must provide all supporting information (course syllabus) 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 for 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 departmental academic advisor to develop and maintain an appropriate plan of study.

Freshman Year - Fall  15 hrs
ENC 1101  Composition I  3 hrs
GEP  3 hrs
MAC 2311C  Calculus with Analytic Geometry I  4 hrs
EGS 1006C  Introduction to the Engineering Profession 1 hr
CHS 1440  Principles of Chemistry 4 hrs

Freshman Year - Spring  14 hrs
ENC 1102  Composition II  3 hrs
MAC 2312  Calculus with Analytic Geometry II  4 hrs
PHY 2048C  General Physics Using Calculus I  4 hrs
EGN 1007C  Engineering Concepts and Methods 1 hr
EGN 3613  Engineering Economic Analysis 2 hrs

Sophomore Year - Fall  16 hrs
MAC 2313  Calculus with Analytic Geometry III  4 hrs
EGN 3310  Engineering Analysis-Statistics 3 hrs
GEP  3 hrs
ENV 3405  Environmental Engineering 3 hrs
STA 3023  Probability and Statistics for Engineers 3 hrs

UNIVERSITY OF CENTRAL FLORIDA
### Sophomore Year - Spring

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### Sophomore Year - Summer

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### Senior Year - Fall

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### Senior Year - Spring

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### Program Academic Learning Compacts

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

### Equipment Fees

- Part-Time Student: $43 per term
- Full-Time Student: $85 per term