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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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 on 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.

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### UCF Degree Programs

#### Civil Engineering Depth Areas 12 hrs
- Select 2 of the following 5 sequences to complete:
  - Geotechnical: 6 hrs
    - CEG 4012 Geotechnical Engineering I
    - CWR 4124 Geotechnical Engineering II and Hydrogeology
  - Water Resources: 6 hrs
    - CWR 4120 Hydrology
    - CWR 4124 Hydrogeology
  - Transportation: 6 hrs
    - TTE 4274 Transportation Engineering Systems and Analytics
    - TTE 4300 Transportation Analytics
  - Structures: 6 hrs
    - CES 4605 Steel Structures and Reinforced Concrete Structures
  - Mechanics: 6 hrs
    - EGN 3343 Thermodynamics
    - CES 4205 Structural Mechanics

#### 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 Operations and Processes
    - ENV 4561 Advanced Environmental Engineering Operations and Processes
  - Construction:
    - CCE 4034 Construction Estimating and Scheduling
    - CCE 4004 Construction Methods

#### 5. Restricted Electives (3 hrs)
- Students should consult the CECE Web site 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
  - CEG 4801C Geotechnical Engineering Design
  - CES 4743C Structural Design
  - CWR 4812C Water Resources Design
  - TTE 4601C Urban Systems Design
  - CGN 4808C CECE Capstone Design

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

#### 7. Foreign Language Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>EGS 1006C</td>
<td>Introduction to the Engineering Profession</td>
<td>1 hr</td>
</tr>
<tr>
<td>EGN 1007C</td>
<td>Introduction to the Engineering Profession</td>
<td>3 hrs</td>
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</tbody>
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#### 7. Foreign Language Requirements
- 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.

### Related Programs
- Construction Engineering
- Environmental Engineering
- 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
- ENC 1101 Composition I 3 hrs
- MAC 2311C Calculus with Analytic Geometry I 4 hrs
- ENGR 1106C Introduction to the Engineering Profession 1 hr

### Freshman Year - Spring
- ENC 1102 Composition II 3 hrs
- MAC 2312 Calculus with Analytic Geometry II 4 hrs
- PHY 2048C General Physics Using Calculus I 4 hrs
### Sophomore Year - Fall
- MAC 2313: Calculus with Analytic Geometry III (4 hrs)
- EGN 3310: Engineering Analysis-Statics (3 hrs)
- GEP: 3 hrs
- ENV 3001: Environmental Engineering (3 hrs)
- STA 3032: Probability and Statistics for Engineers (3 hrs)

### Sophomore Year - Spring
- MAP 2302: Ordinary Differential Equations I (3 hrs)
- PHY 2049C: General Physics Using Calculus II (4 hrs)
- EGN 3331C: Mechanics of Materials (3 hrs)
- GEP: 3 hrs
- CGN 3405: Applied Numerical Methods for Civil Engineering (3 hrs)

### Sophomore Year - Summer
- GEP: 3 hrs
- EGN 3321: Engineering Analysis-Dynamics (3 hrs)
- CWR 3201: Engineering Fluid Mechanics (3 hrs)

### Junior Year - Fall
- CES 4100C: Structural Analysis I and Lab (4 hrs)
- CGN 3700C: Civil Engineering Measurements (2 hrs)
- CEG 4011C: Geotechnical Engineering I (4 hrs)
- TTE 3810: Highway Engineering (3 hrs)
- CWR 4202C: Hydraulics (3 hrs)

### Junior Year - Spring
- GEP: 3 hrs
- CCE 4003: Introduction to the Construction Industry (3 hrs)
- CGN 3501C: Civil Engineering Materials (3 hrs)
- Depth Area 1, Course 1 (3 hrs)
- Depth Area 2, Course 1 (3 hrs)

### Senior Year - Fall
- Approved Project Design Course (3 hrs)
- Depth Area 1, Course 2 (3 hrs)
- Depth Area 2, Course 2 (3 hrs)
- Depth Elective 1 (3 hrs)
- GEP: 3 hrs

### Senior Year - Spring
- GEP: 3 hrs
- CGN 4808C: CECE Capstone Design (3 hrs)
- Depth Elective 2 (3 hrs)
- Technical Elective (3 hrs)

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

### Equipment Fees
- Part-Time Student: $43 per term
- Full-Time Student: $85 per term