UCF Degree Programs

Environmental Engineering (B.S.Env.E.)
College of Engineering and Computer Science
Department of Civil, Environmental, and Construction Engineering, Engineering II, Room: 211
http://www.cece.ucf.edu
Carol Ann Pohl, carolann.pohl@ucf.edu
Dr. Andrew Randall, andrew.randall@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 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 Environmental 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 Environmental 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 Environmental 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 Environmental 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
Suggested SPC 1603G Fundamentals of Technical Presentations 3 hrs

B: Cultural & Historical Foundations (9 hrs)

Select two courses from Historical Foundations 6 hrs
Select one class from MUL 2010, PHI 2010 or THE 2000 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 one class from Social Foundations Group 1 3 hrs
Select one class from Social Foundations Group 2 3 hrs

E: Science Foundations (7 hrs)

Required PHY 2048C General Physics Using Calculus I 4 hrs
Required PHY 2049C General Physics Using Calculus II 4 hrs

Select one of the following sequences of courses:

- Preferred course CHM 2045C Chemistry Fundamentals I 4 hrs
  or
  CHM 2040 Chemistry Fundamentals IA and IB 3 hrs
  CHM 2041 Chemistry Fundamentals IB 3 hrs

1 also satisfy UCF GEP sub-requirements

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.

See “Common Prerequisites” in the Transfer and Transitions Services section for more information.

A grade of “C” (2.0) or better is required in each course in this section.

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

3. Core Requirements: Basic Level (9 hrs)

Environmental engineering majors must complete both Earth Science and Biological Science coursework. See assigned academic advisor for list of approved courses.

EGS 1006C Introduction to the Engineering Profession 1 hr
EGN 1007C Engineering Concepts and Methods 1 hr
1 CHM 2045C Chemistry Fundamentals I CPP
1 CHM 2046 Chemistry Fundamentals II 3 hrs
CHM 2046L Chemistry Fundamentals Laboratory 1 hr
Earth Science GEP
Biological Science 3 hrs

1 also satisfy UCF GEP sub-requirements

4. Core Requirements: Advanced Level (53 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 3343 Thermodynamics 3 hrs
1 EGN 3813 Engineering Economic Analysis 2 hrs
1 ENV 3001 Environmental Engineering 3 hrs
1 CCE 4003 Introduction to the Construction Industry 3 hrs
1 STA 3032 Probability and Statistics for Engineers GEP
1 CYW 3201 Engineering Fluid Mechanics 3 hrs
1 CEG 4011C Geotechnical Engineering I 4 hrs
1 EES 4111C Biological Process Control 4 hrs
1 EES 4202C Chemical Process Control 4 hrs
1 ENV 4531 Environmental Engineering Unit Operations GEP
& Processes
1 ENV 4561 Advanced Environmental Engineering 3 hrs
1 ENV 4566 Operations & Processes 3 hrs

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

ENV 4341 Sustainable Resource Management 3 hrs
CWR 4202C Hydraulics 3 hrs

Select one of the following:
CWR 4120 Hydrology or 3 hrs
CWR 4124 Hydrogeology 3 hrs

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

5. Restricted Electives (3 hrs)
   Technical electives are available in the BSEnvE program to address specific student interests in a variety of technical areas. Students should consult with 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)
   Required Senior Design Courses
   Environmental Engineering Design 3 hrs
   Specialization
   Must be completed before registering for CGN 4808C - Capstone Design
   ENV 4433C Environmental Engineering Wastewater Design or 3 hrs
   1 ENV 4122C Air Pollution Control Design or 3 hrs
   1 ENV 4562C Environmental Engineering Water Treatment 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 one foreign language in high school, or one year of one foreign language in college (or equivalent proficiency exam) prior to graduation.

Graduation
   None

8. Electives
   None

9. Additional Requirements
   EnvE 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
   None
   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

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 Environmental 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 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
   MAC 2311C Calculus with Analytic Geometry I 4 hrs
   EGS 1006C Introduction to the Engineering Profession 1 hr
   CHM 2045C Chemistry Fundamentals I 4 hrs
   Biological Science Requirement 3 hrs

Freshman Year - Spring 15 hrs
   ENC 1102 Composition II 3 hrs
   MAC 2312C Calculus with Analytic Geometry II 4 hrs
   PHY 2049C General Physics Using Calculus I 4 hrs
   EGN 1007C Engineering Concepts and Methods 1 hr
   GEP 3 hrs

Sophomore Year - Fall 16 hrs
   MAC 2313C Calculus with Analytic Geometry III 4 hrs
   CHM 2046 Chemistry Fundamentals II 3 hrs
   EGN 3310 Engineering Analysis-Statics 3 hrs
   EGN 3613 Engineering Economic Analysis 2 hrs
   CHM 2046L Chemistry Fundamentals Laboratory 1 hr
   ENV 3001 Environmental Engineering 3 hrs

Sophomore Year - Spring 16 hrs
   MAP 2302 Ordinary Differential Equations I 3 hrs
   EGN 3334C Thermodynamics 3 hrs
   EGN 3331C Mechanics of Materials 3 hrs
   PHY 2049C General Physics Using Calculus II 4 hrs
   EGN 3321 Engineering Analysis-Dynamics 3 hrs

Sophomore Year - Summer 9 hrs
   STA 3032 Probability and Statistics for Engineers 3 hrs
   CWR 3201 Engineering Fluid Mechanics 3 hrs
   GEP 3 hrs

Junior Year - Fall 16 hrs
   ENV 4531 Environmental Engineering Unit Operations & Processes 3 hrs
   EES 4202C Chemical Process Control 4 hrs
   ENV 4120 Air Pollution and Hazardous Waste Control 3 hrs
   CWR 4202C Hydraulics 3 hrs
   GEP 3 hrs

UNIVERSITY OF CENTRAL FLORIDA
Undergraduate Catalog 2017-2018
<table>
<thead>
<tr>
<th>Junior Year - Spring</th>
<th>16 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>EES 4111C Biological Process Control</td>
<td>4 hrs</td>
</tr>
<tr>
<td>ENV 4561 Advanced Environmental Engineering Operations &amp; Processes</td>
<td>3 hrs</td>
</tr>
<tr>
<td>GEP</td>
<td>3 hrs</td>
</tr>
<tr>
<td>Approved Project Design</td>
<td>3 hrs</td>
</tr>
<tr>
<td><strong>Select 1:</strong></td>
<td>3 hrs</td>
</tr>
<tr>
<td>CWR 4120 Hydrology</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CWR 4124 Hydrogeology</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year - Fall</th>
<th>13 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEG 4011C Geotechnical Engineering I</td>
<td>4 hrs</td>
</tr>
<tr>
<td>ENV 4341 Sustainable Resource Management</td>
<td>3 hrs</td>
</tr>
<tr>
<td>GEP</td>
<td>3 hrs</td>
</tr>
<tr>
<td>Earth Science</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year - Spring</th>
<th>12 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Elective</td>
<td>3 hrs</td>
</tr>
<tr>
<td>GEP</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CGN 4808C CECE Capstone Design</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CCE 4003 Introduction to the Construction Industry</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>

**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](http://www.oeas.ucf.edu/alc/academic_learning_compacts.htm)

**Equipment Fees**
- Part-Time Student: $44 per term
- Full-Time Student: $87 per term