

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>

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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 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 1603C	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
Prefer	GEO 1200	Physical Geography 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.

■ 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
MAC 2312	Calculus with Analytic Geometry II	4 hrs
MAC 2313	Calculus with Analytic Geometry III	4 hrs
MAP 2302	Ordinary Differential Equations I	3 hrs
PHY 2048C	General Physics Using Calculus I	GEP
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	3 hrs
CHM 2041	Chemistry Fundamentals IB	3 hrs

¹ also satisfy UCF GEP sub-requirements

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

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 3613	Engineering Economic Analysis	2 hrs
¹ ENV 3001	Environmental Engineering	3 hrs
CCE 4003	Introduction to the Construction Industry	3 hrs
¹ STA 3032	Probability and Statistics for Engineers	GEP
¹ CWR 3201	Engineering Fluid Mechanics	3 hrs
CEG 4011C	Geotechnical Engineering I	4 hrs
EES 4111C	Biological Process Control	4 hrs
EES 4202C	Chemical Process Control	4 hrs
¹ ENV 4531	Environmental Engineering Unit Operations & Processes	3 hrs
ENV 4120	Air Pollution and Hazardous Waste Control	3 hrs
ENV 4561	Advanced Environmental Engineering Operations & Processes	3 hrs

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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

- 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

- Chemistry
- Construction Engineering
- Civil Engineering

Certificates

■ None

Related Minors

- Chemistry
- Environmental Studies
- Mathematics
- Engineering Leadership
- Bioengineering

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 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
GEP		3 hrs

Sophomore Year - Fall 16 hrs

MAC 2313	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 3343	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

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Junior Year - Spring 16 hrs

EES 4111C	Biological Process Control	4 hrs
ENV 4561	Advanced Environmental Engineering Operations & Processes	3 hrs
GEP		3 hrs
Approved Project Design		3 hrs

Select 1: 3 hrs

CWR 4120	Hydrology or	3 hrs
CWR 4124	Hydrogeology	3 hrs

Senior Year - Fall 13 hrs

CEG 4011C	Geotechnical Engineering I	4 hrs
ENV 4341	Sustainable Resource Management	3 hrs
GEP		3 hrs
Earth Science		3 hrs

Senior Year - Spring 12 hrs

Technical Elective		3 hrs
GEP		3 hrs
CGN 4808C	CECE Capstone Design	3 hrs
CCE 4003	Introduction to the Construction Industry	3 hrs

Program Academic Learning Compacts

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

Equipment Fees

- Part-Time Student: \$44 per term
- Full-Time Student: \$87 per term