UCF Degree Programs

Construction Engineering (B.S.Con.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. Amr A. Oloufa, amr.oloufa@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 Construction Engineering major may not accumulate five or more grades of W, WP, or WF at UCF before being 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 at UCF, the student will be excluded from all CECS and COP majors.
- Students in the Construction 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 Construction 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 Construction Engineering major 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 Construction 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 Construction 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 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 one class from Social Foundation Group 1 3 hrs
- Select one course from Social Foundation Group 2 3 hrs

E: Science Foundations (7 hrs)
- Required PHY 2048C Physics for Engineers & Scientists 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. Note: MAC 2311C and PHY 2048/48L also satisfy UCF GEP.
- 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.

- Preferred course
  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 Physics for Engineers & Scientists I GEP
  PHY 2049C Physics for Engineers and Scientists II 4 hrs

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

- 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
4. Core Requirements: Advanced Level (60 hrs)

- EGN 3310 Engineering Analysis-Statics 3 hrs
- EGN 3321 Engineering Analysis-Dynamics 3 hrs
- EGN 3331 Mechanics of Materials 3 hrs
- STA 3032 Probability and Statistics for Engineers GEP
- EGN 3613 Engineering Economic Analysis 2 hrs
- ENV 3001 Introduction to Environmental Engineering 3 hrs
- CWR 3011 Engineering Fluid Mechanics 3 hrs
- CCE 4003 Introduction to the Construction Industry 3 hrs
- CCE 4034 Construction Estimating and Scheduling 3 hrs
- CCE 4834 Mechanical and Electrical Systems for Buildings 4 hrs

Additional Area Depth Sequence

- Geotechnical Engineering
  - CEG 4011 Geotechnical Engineering I and 4 hrs
  - CEG 4012 Geotechnical Engineering II 4 hrs

- Transportation Engineering
  - CCE 4003 Construction Methods 3 hrs
  - CCE 4074 Transportation Engineering Systems 3 hrs

5. Restricted Electives (3 hrs)

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

6. Capstone Requirements (6 hrs)

- Required Senior Design Courses
  - CCE 4810C Construction Design Project 3 hrs
  - CEN 4980C CECE Capstone Design 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

8. Electives

- None

9. Additional Requirements

- Construction 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

- Civil Engineering
- Environmental Engineering
- Economic Engineering

Certificates

- None

Related Minors

- Mathematics
- Engineering Leadership
- Business

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 Construction 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 Master’s 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

- ENC 1101 Composition I 3 hrs
- MAC 2311C Calculus with Analytic Geometry I 4 hrs
- EGS 1006C 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 Physics for Engineers & Scientists I 4 hrs
- EGN 1007C Engineering Concepts and Methods 1 hr

Sophomore Year - Fall

- MAC 2313 Calculus with Analytic Geometry III 4 hrs
- CHS 1440 Principles of Chemistry 4 hrs
- EGN 3310 Engineering Analysis-Statics 3 hrs
- EGN 3613 Engineering Economic Analysis 2 hrs
- GEP 3 hrs

Sophomore Year - Spring

- MAP 2302 Ordinary Differential Equations I 3 hrs
- EGN 3331 Mechanics of Materials 3 hrs
- PHY 2049C Physics for Engineers and Scientists II 4 hrs
- ENV 3001 Introduction to Environmental Engineering 3 hrs
- GEP 3 hrs

Sophomore Year - Summer

- CCE 4003 Introduction to the Construction Industry 3 hrs
- CWR 3201 Engineering Fluid Mechanics 3 hrs
- EGN 3321 Engineering Analysis-Dynamics 3 hrs
## Junior Year - Fall
- CES 4100C: Structural Analysis I and Lab, 4 hrs
- GEP: 3 hrs
- CCE 4034: Construction Estimating and Scheduling, 3 hrs
- CCE 4813: Mechanical and Electrical Systems for Buildings, 4 hrs
- STA 3032: Probability and Statistics for Engineers, 3 hrs

## Junior Year - Spring
- CCE 4004: Construction Methods, 3 hrs
- CCE 4402: Construction Equipment and Productivity, 3 hrs
- CGN 3501C: Civil Engineering Materials, 3 hrs
- CGN 3700C: Civil Engineering Measurements, 4 hrs
- Concrete or Steel: 3 hrs
  - CES 4605: Steel Structures or
  - CES 4702: Reinforced Concrete Structures, 3 hrs

## Senior Year - Fall
- CCE 4810C: Construction Design Project, 3 hrs
- CWR 4632C: Water Resources Engineering I, 4 hrs
- Approved Technical Elective, 3 hrs
- Select 1: 3 hrs
  - CEG 4011C: Geotechnical Engineering I or
  - TTE 3810: Highway Engineering, 3 hrs

## Senior Year - Spring
- CGN 4808C: CECE Capstone Design, 3 hrs
- ACG 2071: Principles of Managerial Accounting, 3 hrs
- GEP: 3 hrs
- Select 1: 3 hrs

- Take subsequent course to one selected in Fourth Year Fall.
  - CEG 4012: Geotechnical Engineering II or
  - TTE 4274: Transportation Engineering Systems, 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/academiclearningcompacts.html](http://www.o eas.ucf.edu/academiclearningcompacts.html)

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