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

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 may not accumulate five or more grades of W, WP, or WF at UCF and 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 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 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 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 class from Social Foundation Group 2 3 hrs

E: Science Foundations (7 hrs)

Required PHY 2048C Physics for Engineers & Scientists I 4 hrs
Preferred 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.

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 all of the following:
  CHM 2040 Chemistry Fundamentals IA and 3 hrs
  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
4. Core Requirements: Advanced Level (63 hrs)

- EGN 3310 Engineering Analysis-Statics 3 hrs
- EGN 3321 Engineering Analysis-Dynamics 3 hrs
- EGN 3322 Mechanics of Materials 3 hrs
- EGN 3343 Thermodynamics 3 hrs
- EGN 3613 Engineering Economic Analysis 2 hrs
- ENV 3001 Introduction to Environmental Engineering 3 hrs
- CEE 4003 Introduction to the Construction Industry 3 hrs
- STA 3032 Probability and Statistics for Engineers 3 hrs
- CGN 3700C Civil Engineering Measurements 4 hrs
- CGN 3501C Civil Engineering Materials 3 hrs
- CEG 4011C Geotechnical Engineering I 4 hrs
- CES 4100C Structural Analysis I and Lab 4 hrs
- CWR 3201 Engineering Fluid Mechanics 3 hrs
- CWR 4632C Water Resources Engineering I 4 hrs
- TTE 3810 Highway Engineering 3 hrs
- ENV 4531 Environmental Engineering Operations & Processes I 3 hrs
- CES 4605 Steel Structures 3 hrs
- CES 4702 Reinforced Concrete Structures 3 hrs

Select 3: 9 hrs

- Take 3 from the following:
  - CEG 4012 Geotechnical Engineering II or 3 hrs
  - CWR 4633C Water Resources Engineering II or 3 hrs
  - ENV 4651 Environmental Engineering Operations & Processes II or 3 hrs
  - TTE 4274 Transportation Engineering Systems 3 hrs

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

5. Restricted Electives

- Some students may need to take technical electives to satisfy hour shortages because of transfer status. Technical electives are available in the BSCE program to address specific student interests in a variety of technical areas. 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
  - CGN 4808C CECE Capstone Design 3 hrs

Design Specialization 3 hrs

- CEG 4801C Geotechnical Engineering Design or 3 hrs
- CES 4743C Structural Design or 3 hrs
- CWR 4812C Water Resources Design or 3 hrs
- CES 4742C Environmental Engineering Water Treatment Design or 3 hrs
- TTE 4801C Urban Systems 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 14 hrs

- ENC 1101 Composition I 3 hrs
- GEP 6 hrs
- MAC 2311C Calculus with Analytic Geometry I 4 hrs
- EGS 1006C Introduction to the Engineering Profession 1 hr

Freshman Year - Spring 14 hrs

- ENC 1102 Composition II 3 hrs
- MAC 2312C Calculus with Analytic Geometry II 4 hrs
- PHY 2048C Physics for Engineers & Scientists I 4 hrs
- EGN 1007C Engineering Concepts and Methods 1 hr
- EGN 3613 Engineering Economic Analysis 2 hrs

Sophomore Year - Fall 14 hrs

- MAC 2313C Calculus with Analytic Geometry III 4 hrs
- CHS 1440 Principles of Chemistry 4 hrs
- EGN 3310 Engineering Analysis-Statics 3 hrs
- GEP 3 hrs
## Sophomore Year - Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MAP 2302</td>
<td>Ordinary Differential Equations I</td>
<td>3 hrs</td>
</tr>
<tr>
<td>PHY 2049C</td>
<td>Physics for Engineers and Scientists II</td>
<td>4 hrs</td>
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<tr>
<td>EGN 3321</td>
<td>Engineering Analysis-Dynamics</td>
<td>3 hrs</td>
</tr>
<tr>
<td>EGN 3331</td>
<td>Mechanics of Materials</td>
<td>3 hrs</td>
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<tr>
<td>GEP</td>
<td></td>
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## Sophomore Year - Summer

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<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENV 3001</td>
<td>Introduction to Environmental Engineering</td>
<td>3 hrs</td>
</tr>
<tr>
<td>STA 3032</td>
<td>Probability and Statistics for Engineers</td>
<td>3 hrs</td>
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<tr>
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## Junior Year - Fall

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CWR 3201</td>
<td>Engineering Fluid Mechanics</td>
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<tr>
<td>CCE 4003</td>
<td>Introduction to the Construction Industry</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CGN 3501C</td>
<td>Civil Engineering Materials</td>
<td>3 hrs</td>
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<tr>
<td>CES 4100C</td>
<td>Structural Analysis I and Lab</td>
<td>4 hrs</td>
</tr>
<tr>
<td>CGN 3700C</td>
<td>Civil Engineering Measurements</td>
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## Junior Year - Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td>GEP</td>
<td></td>
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<tr>
<td>CES 4702</td>
<td>Reinforced Concrete Structures</td>
<td>3 hrs</td>
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<tr>
<td>CEG 4011C</td>
<td>Geotechnical Engineering I</td>
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<tr>
<td>CWR 4632C</td>
<td>Water Resources Engineering I</td>
<td>4 hrs</td>
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<tr>
<td>TTE 3810</td>
<td>Highway Engineering</td>
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## Junior Year - Spring

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<tbody>
<tr>
<td>CES 4605</td>
<td>Steel Structures</td>
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<tr>
<td>ENV 4531</td>
<td>Environmental Engineering Operations &amp; Processes I</td>
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## Discipline Depth

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<tbody>
<tr>
<td>CEG 4012</td>
<td>Geotechnical Engineering II or</td>
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<tr>
<td>CWR 4633C</td>
<td>Water Resources Engineering II or</td>
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</tr>
<tr>
<td>ENV 4561</td>
<td>Environmental Engineering Operations &amp; Processes II</td>
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</tr>
<tr>
<td>TTE 4274</td>
<td>Transportation Engineering Systems</td>
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## Design Elective

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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CEG 4801C</td>
<td>Geotechnical Engineering Design or</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CES 4743C</td>
<td>Structural Design or</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CWR 4812C</td>
<td>Water Resources Design or</td>
<td>3 hrs</td>
</tr>
<tr>
<td>ENV 4562C</td>
<td>Environmental Engineering Water Treatment Design or</td>
<td>3 hrs</td>
</tr>
<tr>
<td>TTE 4601C</td>
<td>Urban Systems Design</td>
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</table>

## Senior Year - Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEP</td>
<td></td>
<td>3 hrs</td>
</tr>
<tr>
<td>EGN 3343</td>
<td>Thermodynamics</td>
<td>3 hrs</td>
</tr>
<tr>
<td>CGN 4808C</td>
<td>CECE Capstone Design</td>
<td>3 hrs</td>
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</tbody>
</table>

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<thead>
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<tbody>
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<tr>
<td>ENV 4561</td>
<td>Environmental Engineering Operations &amp; Processes II</td>
<td>3 hrs</td>
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</table>

## Program Academic Learning Compacts

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

## Equipment Fees

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