

# UCF Degree Programs

## CONSTRUCTION ENGINEERING (B.S.Con.E.)

College of Engineering and Computer Science  
Civil, Environmental, and Construction Engineering  
Department (CECE)

ENG2 211, 407-823 2841; Fax: 407-823-3315

<http://www.cce.ucf.edu>

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Admission Requirements: **none**

### Degree Requirements

- 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.

### 1. UCF General Education Program for Engineering Students (36+2 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 State University/Community College Systems should complete the GEP and the Common Program Prerequisites *before* transferring.

- |   |       |
|---|-------|
| A. Communication Foundations  | 9 hrs |
| 1. ENC 1101 & ENC 1102  |       |
| 2. Prefer SPC 1016  |       |
| B. Cultural and Historical Foundations  | 9 hrs |
| 1. Select two courses from Historical Foundations   |       |
| 2. ARH 2050, ARH 2051, MUL 2010, THE 2000, FIL 1000, REL 2300, PHI 2010, LIT 2110, <i>or</i> LIT 2120 |       |
| C. Mathematical Foundations   | 7 hrs |
| 1. Select MAC 2311 (PR: MAC 1114 and MAC 1140)  |       |
| 2. Select STA 3032 (PR: MAC 2312)   |       |
| D. Social Foundations   | 6 hrs |
| 1. Prefer ECO 2013 <i>or</i> ECO 2023.  |       |
| 2. ANT 2000, PSY 2012, <i>or</i> SYG 2000.  |       |
| E. Science Foundations  | 7 hrs |
| 1. Select PHY 2048/48L (PR: MAC 2311)   |       |
| 2. Prefer GEO 1200  |       |

### 2. Common Program Prerequisites (CPP's) (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 2311 and PHY 2048/48L also satisfy UCF GEP sub-requirements, as do ENC 1101, ENC 1102, the Humanities courses, and the Social Science courses.

CHM 2045C/45L	Chemistry Fundamentals I with Lab	4 hrs
<i>or</i> CHS 1440	Fund of Chemistry for Engineers	
MAC 2311	Calculus w/Analytic Geometry I	GEP
MAC 2312	Calculus w/Analytic Geometry II	4 hrs
MAC 2313	Calculus w/Analytic Geometry III	4 hrs
MAP 2302	Differential Equations	3 hrs
PHY 2048/48L	Physics for Engineers & Scientists I	GEP
PHY 2049/49L	Physics for Engineers & Scientists II	4 hrs
ENC 1101	Composition I	GEP
ENC 1102	Composition II	GEP
	Humanities Courses	GEP
	Social Science Courses	GEP
	Humanities or Social Sciences	GEP

See "Common Prerequisites" in the Transfer and Transitions Services section (pg. 46) for more information.

### 3. Courses Required for the Major (62 hrs)

The College of Engineering and Computer Science requires all engineering students to achieve a minimum 2.25 GPA in completing these courses, together with the technical elective courses listed in 4. below and with the senior design courses listed in 5. below. Independent study courses generally do **not** satisfy major requirements. A "C" (2.0) or better is required for those courses in section 3. marked with an asterisk(\*)).

EGN 1006C	Intro to the Engineering Profession	1 hr
EGN 1007C	Engineering Concepts & Methods	1 hr
CHM 2045C	Chemistry Fundamentals I	CPP
CHM 2046	Chemistry Fundamentals II	3 hrs

EGN 3310*	Engineering Analysis - Statics	3 hrs
EGN 3321	Engineering Analysis - Dynamics	3 hrs
EGN 3331*	Mechanics of Materials	3 hrs
EGN 3613	Engineering Economic Analysis	2 hrs
ENV 3001	Intro to Environmental Engineering	3 hrs
STA 3032	Probability & Statistics for Engineers	GEP
CCE 4813	Mech & Elec Systems for Buildings	4 hrs
CCE 4402	Construction Equip & Productivity	3 hrs
CGN 3501C	Civil Engineering Materials	3 hrs
<i>or</i> EGN 3365	Struc & Prop of Materials	
CCE 4004	Construction Methods	3 hrs
CCE 4034	Construction Estimating & Scheduling	3 hrs
CCE 4003	Intro to the Construction Industry	3 hrs
CEG 4011C	Geotechnical Engineering I	4 hrs
CES 4100C	Structural Analysis I	4 hrs
CES 4702	Reinforced Concrete Structures	3 hrs
<i>or</i> CES 4605	Steel Structures	
CWR 3201	Engineering Fluid Mechanics	3 hrs
ACG 2071	Managerial Accounting	3 hrs
SUR 2101C	Surveying	3 hrs
TTE 4004	Transportation Engineering	4 hrs

### 4. Approved Engineering Science Electives (3 hrs)

Engineering Science electives are available in the BSConE program to address specific student interests in a variety of technical areas. Students are encouraged to take EGN 3343 (Thermodynamics), EGN 3373 (Principles of Elect Engr), CWR 4101C (Hydrology), or CWR 4203C (Hydraulics) as the technical elective. Other courses from the list of approved technical electives may be used with the approval of the department advisor. 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.

### 5. Departmental Graduation Requirements (6 hrs)

- CCE 4810C Construction Engr. Design Project 3 hrs
- CEG 4801C Geotechnical Engr. Design 3 hrs
- Construction engineering students must take the Fundamentals Exam during their Senior year.
- Earn a graduating GPA of 2.25 in the major courses from item 3. above, the technical electives in item 4. above, and the approved ConE project design courses.

### 6. Foreign Language Requirements (0-8 hrs)

**Admission:** 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**

### 7. University Minimum Graduation Requirements

- A 2.0 UCF GPA.
- 60 semester hours earned after any CLEP award.
- 48 semester hours of upper division credit completed.
- 30 of the last 36 hours of course work must be completed in residency at UCF.
- 25% 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, the CLAST, and nine semester hours of Summer credit (if applicable).

**Total Semester Hours Required:** **128 hrs**

**Related Programs:** Civil Engineering, Environmental Engineering.

**Related Minors:** Mathematics, Engineering Leadership

### Transfer Notes:

- Courses taken from Community Colleges do not substitute for Upper Division Courses unless part of an articulated pre-engineering degree program.
- Courses transferred must be formally evaluated for equivalency credit. The student must provide all supporting information with his/her petition for this evaluation.

### Program Academic Learning Compacts

- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at:  
[http://www.o eas.ucf.edu/al c/academic\\_learning\\_compacts.htm](http://www.o eas.ucf.edu/al c/academic_learning_compacts.htm)

**Equipment Fee**

- Full-time Student .....\$76 per term
- Part-time Student .....\$38 per term

**Tentative Course Schedule for Entering Freshmen**

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.

**Construction Engineering – 128 semester hours required**

**FIRST YEAR**

<b>Fall</b>	<b>14 hrs<sup>1</sup></b>	<b>Spring</b>	<b>15 hrs<sup>1</sup></b>
*ENC 1101 English Comp I	3	*ENC 1102 English Comp II	3
*MAC 2311 Calc w/Analy Geo I	4	*MAC 2312 Calc w/Analy Geo II	4
*ANT/PSY/SYG	3	*PHY 2048/L Phys Engr I w/lab	4
*ECO 2013 Macroeconomics	3	*GEO GLY/BSC	3
or ECO 2023 Microeconomics		EGN 1007C Eng Con & Meth	1
EGN 1006C Intro To Eng Prof	1		

**SECOND YEAR**

<b>Fall</b>	<b>16 hrs<sup>1</sup></b>	<b>Spring</b>	<b>16 hrs<sup>1</sup></b>
*MAC 2313 Calc w/Analy Geo III	4	*MAP 2302 Diff Equations	3
*CHM 2045C/L Chem Funds I	4	*CHM 2046 Chemistry Funds II	3
*HUM/AMH/EUH - I	3	*PHY 2049/L Phys Eng II w/lab	4
EGN 3310 Engr Anal - Statics	3	*HUM/AMH/EUH - II	3
EGN 3613 Eng Econ Anal	2	EGN 3331 Mech of Materials	3
<b>Summer</b>	<b>9 hrs<sup>1</sup></b>		
*SPC 1016 Tech Presentations	3		
STA 3032 Prob/Stats Engineers	3		
ENV 3001 Intro to Environ Eng	3		

**THIRD YEAR**

<b>Fall</b>	<b>16 hrs<sup>1</sup></b>	<b>Spring</b>	<b>15 hrs<sup>1</sup></b>
EGN 3321 Engr Anal-Dynamics	3	Engineering Science Elective	3
CCE 4003 Intro Constr. Industry	3	CES 4702 Reinforced Concrete	3
CES 4100C Structural Analysis I	4	CCE 4004 Construct Methods	3
*Cultural/Historical Elective	3	*SUR 2101C Surveying	3
CGN 3501C Civil Engrg Materials	3	CWR 3201 Eng Fluid Mechanics	3
or EGN 3365 Struc & Prop of Matrils			

**FOURTH YEAR**

<b>Fall</b>	<b>15 hrs</b>	<b>Spring</b>	<b>13 hrs</b>
TTE 4004 Transportation Eng	4	CCE 4810C Constr Design Project	4
CCE 4034 Construc Est & Sched	3	CCE 4402 Constr Equip & Prod	3
CEG 4011C Geotechnical Engr	4	CEG 4801C Geotech Engr Design	3
CCE 4813 Mech & Elec Bldgs	4	ACG 2071 Prin Mgrl Accounting	3

**Notes:**

1. Courses marked with an asterisk (\*) are also available from most Community Colleges and are often part of their Pre-Engineering AA programs. Most of these courses are part of the UCF General Education Program; see the section on the GEP elsewhere in this catalog for further information.
2. Engineering Science Elective may be satisfied by taking either EGN 3343, EGN 3373, CWR 4101C or CWR 4203C; other courses must be approved by the Program Director.
3. Either CES 4605 Steel Structures or CES 4702 Reinforced Concrete Structures is required for all students.
4. EGN 1006C and EGN 1007C are required courses for incoming freshmen only. The credits for these two courses (one hour each) may, with prior approval of the departmental academic advisor, be moved to the area 4. Approved Technical Electives.
5. Students must earn a minimum grade of "C" (2.0) in EGN 3310 or its equivalent and EGN 3331 or its equivalent before registering for subsequent courses.

**BS to PhD Program**

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.