ELECTRICAL ENGINEERING (B.S.E.E.)

College of Engineering and Computer Science
School of Electrical Engineering & Computer Science,
Harris Corp Engineering Ctr., Rm 246,
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http://www. eecs.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 the section, General Education Program, found elsewhere 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, *or* 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 *or* ECO 2023	
2. ANT 2000, PSY 2012, *or* SYG 2000	
E. Science Foundations	7 hrs
1. Select PHY 2048/48L (PR: MAC 2311)	
2. ANT 2511, BSC 1005, BSC 1050, GLY 1030, GEO 1200, *or* MCB 1310	

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. T**o enroll in ECE major courses,** a **2.0 (C or better) in each course is required for those courses in section 2. marked with an asterisk (*). 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.

CHS 1440	Fundamentals of Chemistry for Eng (CHM 2045C/45L will substitute)	4 hrs
MAC 2311*	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*	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 Engineering Core (14 hrs)

The College of Engineering and Computer Science requires all engineering students to achieve a minimum 2.250 GPA in completing these courses, together with the courses required for the major in **4.** below, technical elective courses listed in **5.** below and with the senior design courses listed in **6.** below. Independent study courses generally do **not** satisfy major requirements.

EGN 1006C	Intro to the Engineering Profession	1 hr
EGN 1007C	Engineering Concepts & Methods	1 hr
EGN 3310	Engineering Analysis - Statics	3 hrs
EGN 3321	Engineering Analysis - Dynamics *or*	
EGN 3358	Thermo-Fluids-Heat Transfer	3 hrs
EGN 3420	Engineering Analysis	3 hrs
STA 3032	Probability & Statistics for Engineers	GEP
PHY 3101	Physics for Engineers & Scientists III	3 hrs

4. Courses Required for the Major (41 hrs)

EEL 3004	Electrical Networks	3 hrs
EEL 3123C	Networks and Systems	4 hrs
EEE 3350	Semiconductor Devices I	3 hrs
EEE 3307C	Electronics I	4 hrs
EEE 3342C	Digital Systems	3 hrs
EEL 3470	Electromagnetic Fields	3 hrs
EEL 3552C	Analog and Digital Communications	4 hrs
EEL 3657	Linear Control Systems	3 hrs
EEL 3801	Computer Organization	3 hrs
EEE 4309C	Electronics II	4 hrs
EEL 4750	Digital Signal Processing Fund.	3 hrs
EEL 4767C	Embedded Systems	4 hrs

5. Approved Technical Electives (10 hrs)

Technical electives are available in the BSEE program to address specific student interests in a variety of technical areas such as microelectronics and wireless communications. 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. Departmental Graduation Requirements (6 hrs)

EEL 4914	Senior Design I	3 hrs
EEL 4915L	Senior Design II	3 hrs

- CECS encourages all engineering students to take the Fundamentals Exam during their Senior year.

7. 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

8. 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.

Total Semester Hours Required: 128 hrs

Related Programs: Computer Engineering, Computer Science, Electrical Engineering Technology (Electrical Systems Concentration).

Related Minors: Engineering Leadership, Intelligent Robotic Systems

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.oeas.ucf.edu/alc/academic_learning_compacts.htm*

Equipment Fee

- Full-time Student . . . . . .$58 per term
- Part-time Student . . . . . .$29 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 faculty advisor to develop and maintain an appropriate plan of study.

Electrical Engineering - 128 semester hours required

FIRST YEAR

Fall	12 hrs[1,3]	Spring	15 hrs[1,3]
EGN 1006C Intro to Engr	1	EGN 1007C Eng Conc & Meth	1
*ENC 1101 English Comp I	3	*ENC 1102 English Comp II	3
*CHS 1440 Chem for Engrs	4	*SPC 1016 Tech Presentations	3
*MAC 2311 Calc with Analytic Geo I	4	*MAC 2312 Calc with Analy Geo II	4
		*PHY 2048/L Phys Eng I w/lab	4
Summer	**11 hrs[1]**		
Historical Foundations 1a	3		
*MAC 2313 Calc with Analytic Geo III	4		
*PHY 2049 Phys for Engr/Sci II	3		
*PHY 2049L Phys Lab En/Sci II	1		

SECOND YEAR

Fall	15 hrs[1]	Spring	15 hrs[1]
*MAP 2302 Diff Equations	3	*Cultural & Hist Foundations	3
*PHY 3101 Phys for Engr/Sci III	3	EGN 3310 Engr Anal-Statics	3
*Science Foundations 2	3	EEE 3342C Dig Systems	3
*Social Foundations 1	3	EEL 3801 Computer Organization	3
EGN 3420 Engineering Anal2	3	EEL 3004 Electrical Networks	3
Summer	**6 hrs[1]**		
Historical Foundations 1b	3		
*ECO 2013 Macroeconomics *or* ECO 2023 Microeconomics	3		

THIRD YEAR

Fall	14 hrs	Spring	14 hrs
EEE 3350 Semicond Devices I	3	EEE 3307C Electronics I	4
STA 3032 Prob & Stats Engrs	3	EEL 3657 Linear Control Sys	3
EEL 4767C Embedded Systems	4	EEL 3552C Anal & Dig Comm	4
EEL 3123C Networks and Systems	4	EGN 3321 Engr Anal-Dynamics *or* EGN 3358 Ther-Flds-Ht Transfer	3

FOURTH YEAR

Fall	13 hrs	Spring	13 hrs
EEL 4750 Signal Proc Fund	3	Approved Technical Elective	3
EEL 3470 Electromagnetic Flds	3	Approved Technical Elective	3
EEE 4309C Electronics II	4	Approved Technical Elective	4
EEL 4914 Senior Design I	3	EEL 4915L Senior Design II	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. Assumes knowledge of a higher level programming language (C preferred).

3. 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 department academic advisor, be moved to the area 5. Approved Technical Electives.

Accelerated BS/MS Degree Program

The Electrical Engineering program offers the Accelerated BS/MS Program to students of high academic standing. This program allows up to twelve hours to be shared between the BS and MS degrees. See your department or the Accelerated program section in the back of this catalog for more information.