



## Bachelor of Science in Electrical Engineering

(Requires 425 123 credits.)

### Admission Requirements

All students must meet the minimum admission requirements of the University. Please refer to the [Admissions section](#) of this catalog.

All students must meet the preprofessional requirements listed [above](#) in order to be accepted into the Electrical Engineering program.

### Prerequisite Coursework for Transfer Students

Students transferring to Florida Atlantic University must complete both lower-division requirements (including the requirements of the Intellectual Foundations Program) and requirements for the college and major. Lower-division requirements may be completed through the A.A. degree from any Florida public college, university or community college or through equivalent coursework at another regionally accredited institution. Before transferring and to ensure timely progress toward the baccalaureate degree, students must also complete the prerequisite courses for their major as outlined in the [Transition Guides](#).

All courses not approved by the Florida Statewide Course Numbering System that will be used to satisfy requirements will be evaluated individually on the basis of content and will require a catalog course description and a copy of the syllabus for assessment.

### General Degree Requirements

The minimum number of credits required for the Bachelor of Science in Electrical Engineering (B.S.E.E.) degree is 125 credits. All courses that count toward the degree must be completed with grades of "C" or better. The Bachelor of Science in Electrical Engineering degree will be awarded to students who meet all admission and degree requirements of the department and the University. Notes below are referenced in the tables following the list.

#### Notes:

(1) Students entering FAU with less than 30 credits must satisfy the course requirements specified in the catalog section, [Degree Requirements](#). Students entering FAU with more than 30 credits (transfer students) must see the undergraduate advisor for an evaluation of courses taken at another school. The general education requirements are normally satisfied if a student has an Associate in Arts (A.A.) degree from a Florida community or state college. Once students earn beyond 30 credits, they must substitute EGN 1002 Fundamentals of Engineering with an electrical engineering elective. ~~they may take an electrical engineering elective to substitute for EGN 1002, Fundamentals of Engineering.~~

~~(2) All technical electives must be approved by the undergraduate advisor. In general, a technical elective is defined as an upper-division course with significant technical disciplinary content. A maximum of 3 credits can be used as a technical elective. See advisor for approved courses.~~

~~(3)~~ (2) For those students who are also pursuing a math minor, STA 4032, Probability and Statistics for Engineers, can be substituted for EEE 4541 ~~STA 4821~~, Stochastic Models.

### Program Summary

General Education	24
Mathematics	15
Science	9
Common Core	24
CE-EE Core	18

<b>EE Core</b>	9
<b>Semi-Core Group 1</b>	3
<b>Semi-Core Group 2</b>	9
<b>Electives</b>	12
<b>Total</b>	<b>123</b>

<b>General Education</b>	
Foundations of Written Communication	6
Foundations of Society and Human Behavior	6
Foundations of Global Citizenship	6
Foundations of Humanities	6
<b>Subtotal</b>	<b>24</b>

<b>Mathematics</b>		
Calculus with Analytic Geometry 1	MAC 2311	4
Calculus with Analytic Geometry 2	MAC 2312	4
Calculus with Analytic Geometry 3	MAC 2313	4
Engineering Math I	MAP 3305	3
<b>Subtotal</b>		<b>15</b>

<b>Science</b>		
General Physics for Engineers 1	PHY 2048	4
General Physics Lab 1	PHY 2048L	1
Physics for Engineers 2	PHY 2044	3
General Physics Lab 2	PHY 2049L	1
<b>Subtotal</b>		<b>9</b>

## Core Courses

All students must take the following core courses, which total 51 credits:

<b>Common Core</b>		
Programming I	COP 2220	3
Foundations of Computing	COT 2000	3
Computer Logic Design	CDA 3203	3
Computer Architecture	CDA 4102	3
Stochastic Models (2)	EEE 4541	3
Introduction to Data Science and Analytics	CAP 4773	3
RI: Engineering Design 1	EGN 4950C	3
RI: Engineering Design 2	EGN 4952C	3
<b>Subtotal</b>		<b>24</b>

<b>CE-EE Core</b>		
Fundamentals of Engineering	EGN 1002	3
Signals and Digital Filter Design	EEL 3514	3
Circuits 1	EEL 3111	3
Electronics 1	EEE 3300	3
Electronics Laboratory 1	EEL 3118L	3
Design of Digital Systems	CDA 4240C	3
<b>Subtotal</b>		<b>18</b>

<i>EE Core</i>		
Electronics II and Lab	EEE 4361C	3
Control Systems 1	EEL 4652C	3
Principles of Comm Systems	EEL 4512C	3
<b>Subtotal</b>		<b>9</b>

### Semi-Core Courses

All students must take 3 credits from the semi-core group 1 and 9 credits from semi-core group 2.

<i>EE Semi-Core Group 1 (choose 1)</i>		
Electric Power Systems	EEL 4216	3
Electrical Machines	EEL 4220	3
<b>Subtotal</b>		<b>3</b>

<i>EE Semi-Core Group 2 (choose 3)</i>		
Electronics III and Lab	EEE 4362C	3
Embedded Systems	CDA 4630	3
Communication Networks	CNT 4005	3
Electromagnetic Fields and Waves	EEL 3470	3
Photovoltaic Power Systems	EEE 4281	3
Digital Signal Processing	EEE 4510	3
Digital Communication Systems	EEL 4510	3
Wireless Communication Systems	EEL 4580	3
<b>Subtotal</b>		<b>9</b>

## Electives

All students must take 6 credits of technical electives and 6 credits of Electrical Engineering electives. Any 4000-level course offered by the EECS Department can be used as technical electives or Electrical Engineering electives. Certain 5000-level or 6000-level courses may be taken as technical electives or Electrical Engineering electives. In addition, COP 3014, COP 3530, COP 3043 can be used as technical electives. Students must see an advisor for a current list of approved elective courses.

<b>Electrical Engineering Electives</b>	6
<b>Technical Electives</b>	6

The following courses may be taken as technical or Electrical Engineering electives.

Directed Independent Study	COT 4900	1-3
----------------------------	----------	-----

## Directed Independent Study

Students must have completed Electronics II and Lab EEE 4361C with a C or better before being eligible to register for directed independent study. Students are allowed to take no more than the equivalent of one course (3 credits) to satisfy degree requirements. ~~Special permission is required to count more than 3 credits of directed independent study.~~

<b>Specific Degree Requirements</b>	
<b>General Education (1)</b>	
Foundations of Written Communication	6
Foundations of Society and Human Behavior	6
Foundations of Global Citizenship	6
Foundations of Humanities	6
<b>Subtotal</b>	<b>24</b>

<b>Mathematics and Science (Lower Division)</b>	
Fundamentals of Engineering (1)	EGN 1002 3
Calculus with Analytic Geometry 1	MAC 2314 4
Calculus with Analytic Geometry 2	MAC 2312 4
Calculus with Analytic Geometry 3	MAC 2313 4
Introduction to Programming in C	COP 2220 3
General Physics for Engineers 1	PHY 2048 3
General Physics Lab 1	PHY 2048L 1
Physics for Engineers 2	PHY 2044 3
General Physics Lab 2	PHY 2049L 1
Science	4

<b>Subtotal</b>	<b>30</b>
-----------------	-----------

**Top**

<b><i>Electrical Engineering Core</i></b>		
Circuits 1	EEL 3111	3
Introduction to Logic Design	CDA 3201C	4
Electronics 1	EEE 3300	4
Analysis of Linear Systems	EEL 4656	3
Stochastic Models for Computer Science (3)	STA 4821	3 or
Stochastic Processes and Random Signals	EEE 4541	3
Electronics Laboratory 1	EEL 3118L	2
Electronics 2	EEE 4361	3
Electromagnetic Fields and Waves	EEL 3470	3
Introduction to Microprocessor Systems	CDA 3331C	3
Electronics Laboratory 2	EEL 4119L	3
RE: Engineering Design 1	EGN 4950G	3
RE: Engineering Design 2	EGN 4952G	3
Communication Systems 1	EEL 4512	3
Control Systems 1	EEL 4652	3
Control Systems Lab	EEL 4652L	1 or
Communication Systems Lab	EEL 4512L	1
Introduction to Digital Signal Processing	EEE 4510	3
Electric Power Systems	EEL 4216	3 or
Electrical Machines	EEL 4220	3
<b>Subtotal</b>		<b>50</b>

<b><i>Electrical Engineering Electives (3)</i></b>	<b>12</b>
<b><i>Electrical Engineering or Technical Electives (3)</i></b>	<b>6</b>
<b><i>Mathematics Elective (3)</i></b>	<b>3</b>
<b>Subtotal</b>	<b>21</b>
<b>Total</b>	<b>125</b>

**Top**

### Sample Four-Year Program of Study

For the sample four-year program of study for the Bachelor of Science in Electrical Engineering, refer to the [Curriculum Sheets and Flight Plans](#) by major.

### Second Bachelor's Degree

~~Individuals seeking a second bachelor's degree must satisfy all admission and degree requirements of a first bachelor's degree, except for free electives, general education and foreign language. The minimum number of FAU credits needed to earn a second bachelor's degree in Computer Science is 30 credits at the 3000 level or higher, but for most students the number of credits required to meet the degree requirements will be considerably larger.~~

This program is for those individuals with a degree in another discipline who are seeking a Bachelor of Science with major in Electrical Engineering degree at FAU.

### **Admission Requirements**

Students seeking a bachelor's degree or graduate degree in another discipline must satisfy all admission requirements of the first bachelor's degree in Electrical Engineering at FAU.

### **Degree Requirements**

1. Earn a minimum of 30 credits in residence at FAU, at the 3000 level or higher, beyond those required for the first degree. Students earning two degrees simultaneously (a "dual degree") must earn at least 150 credits.
2. Earn at least 75 percent of all upper-division credits required for the major from FAU.
3. Students must have completed 15 credits in mathematics, 9 credits in science, and 51 credits in core courses listed in the Electrical Engineering degree program. Each course must be completed with a minimum grade of "C."

### **Directed Independent Study**

~~Students in the Electrical Engineering program must earn a minimum of 9 credits in core courses for their major before being eligible to register for directed independent study. Students are allowed to take no more than the equivalent of one course (3 credits) to satisfy degree requirements. If a student needs more than 3 credits of independent study, written approval must be obtained from the chair of the department prior to enrolling in the additional credits.~~

### **Undergraduate Transfer Students**

Prior to the academic advising session, course ~~syllabi~~ descriptions and syllabi need to be submitted to the Undergraduate Academic Advisor for evaluation of possible transfer credits. Course descriptions can be provided by submitting an undergraduate catalog from the post-secondary institution attended, submitting course descriptions from an online catalog (requires that the post-secondary institution web address be at the bottom of each page) or by providing course syllabi. The Academic Advisor evaluation needs to be performed even if a student has an evaluation by an approved agency.