



## Bachelor of Science in Computer Engineering

(Requires ~~424~~ 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 Computer 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](#) and below.

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 Computer Engineering (B.S.C.E.) degree is ~~424~~ 123 credits. All courses that count toward the degree must be completed with a grade of "C" or better. This degree will be awarded to students who meet all admission and degree requirements of the department and the University. Notes below are referred to in the tables following the list.

#### Notes:

(1) Students entering FAU with fewer 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 a computer engineering elective.**

(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 4824~~, Stochastic Models.

~~(3) Once students earn beyond 30 credits, they may take a computer engineering elective to substitute for EGN 1002, Fundamentals of Engineering.~~

~~(4) 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. See advisor for approved courses.~~

### Program Summary

<b>General Education</b>	24
<b>Mathematics</b>	15
<b>Science</b>	9
<b>Common Core</b>	24
<b>CS-CE Core</b>	15

<b>CE-EE Core</b>	18
<b>CE Core</b>	3
<b>Semi-Core Group 1</b>	6
<b>Electives</b>	9
<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 50 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>CS-CE Core</b>		
Programming II	COP 3014	3
Data Structures and Algorithm Analysis	COP 3530	3
Communication Networks	CNT 4005	3
Principles of Software Engineering	CEN 4010	3
Computer Operating Systems	COP 4610	3
<b>Subtotal</b>		<b>15</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 and Lab	CDA 4240C	3
<b>Subtotal</b>		<b>18</b>

<b>CE Core</b>		
Introduction to Embedded System Design	CDA 4630	3
<b>Subtotal</b>		<b>3</b>

### Semi-Core Courses

All students must take 6 credits from the semi-core group.

<b>CE Semi-Core (choose 2)</b>		
Electronics II and Lab	EEE 4361	3
Hardware Software Codesign	CEN 4214	3
IoT and Sensor Networks	CNT 4164	3
Intro to VLSI Design	CDA 4210	3
Hardware Security	CDA 4323	3
<b>Subtotal</b>		<b>6</b>

### Electives

All students must take 9 credits of elective courses. Any 4000-level course offered by the EECS Department can be used as Computer Engineering electives. Certain 5000-level or 6000-level courses may be taken as Computer Engineering electives. Students must see an advisor for a current list of approved elective courses.

<b>Computer Engineering Electives</b>		<b>9</b>
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The following courses may be taken as Computer Engineering electives.

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

Students must have completed COP 3530 Data Structures and Algorithm Analysis 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>		
Calculus with Analytic Geometry 1	MAC 2314	4
Calculus with Analytic Geometry 2	MAC 2312	4
Calculus with Analytic Geometry 3	MAC 2313	4
Engineering Mathematics 1	MAP 3305	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 (5)		4
<b>Subtotal</b>		<b>27</b>

<b>Computer Engineering Core Courses</b>		
Foundations of Computer Science	COP 3014	3
Introduction to Logic Design	CDA 3201C	4
Introduction to Microprocessor Systems	CDA 3331C	3
Introduction to Programming in C	COP 2220	3
Data Structures and Algorithm Analysis	COP 3530	3
Computer Operating Systems	COP 4610	3
Principles of Software Engineering	CEN 4010	3
RI: Engineering Design 1	EGN 4950G	3
RI: Engineering Design 2	EGN 4952C	3
Discrete Mathematics	MAD 2104	3
Stochastic Models for Computer Science (2)	STA 4821	<del>3</del> or
Stochastic Processes and Random Signals	EEE 4544	3
<b>Subtotal</b>		<b>34</b>

<b>Computer Engineering Electives</b> (select four of the following)		
Structured Computer Architecture	CDA 4102	3
Introduction to Computer Systems Performance Evaluation	CEN 4400	3
Introduction to Embedded System Design	CDA 4630	3
Introduction to VLSI	CDA 4210	3
Introduction to Data Communications	CNT 4104	3
Computer Network Projects	CNT 4713	3
Mobile App Projects	GOP 4655	3
CAD-Based Computer Design	CDA 4204	3
<b>Subtotal</b>		<b>12</b>
<b>Other Engineering (3)</b>		
Fundamentals of Engineering (3)	EGN 1002	3
Circuits 1	EEL 3111	3
Electronics 1	EEE 3300	4
Electronics Laboratory 1	EEL 3118L	2
<b>Subtotal</b>		<b>12</b>
<b>Technical Electives (as approved by advisor) (4)</b>		<b>15</b>
<b>Total</b>		<b>124</b>

### Sample Four-Year Program of Study

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

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### Second Bachelor's Degree

~~Individuals seeking a second bachelor's degree must satisfy all admission and degree requirements of a first bachelor's degree. The minimum number of FAU credits (beyond those used for the first degree) needed to earn a Bachelor of Science in Computer Engineering is 30 credits at the 3000 level or higher.~~

This program is for those individuals with a degree in another discipline who are seeking a Bachelor of Science with major in Computer 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 Computer 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 60 credits in core course listed in the Computer Engineering degree program. Each course must be completed with a minimum grade of "C."

### **Directed Independent Study**

~~Students in the Computer Science, Computer Engineering programs 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** 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.