

 FLORIDA ATLANTIC UNIVERSITY	NEW/CHANGE PROGRAM REQUEST Undergraduate Programs	UUPC Approval <u>3/25/24</u> UFS Approval _____ Banner _____ Catalog _____
	Department _____ College _____	
Program Name	New Program* _____ Change Program* _____	Effective Date (TERM & YEAR)
<p>Please explain the requested change(s) and offer rationale below or on an attachment.</p>		
<p>*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.</p>		
Faculty Contact/Email/Phone	Consult and list departments that may be affected by the change(s) and attach documentation	
Approved by		Date
Department Chair <u>HaiKdva</u>		<u>2/12/2024</u>
College Curriculum Chair <u>Hongbo Su</u>		<u>3/12/24</u>
College Dean <u>[Signature]</u>		<u>3/12/24</u>
UUPC Chair <u>Korey Sorge</u>		<u>3/25/24</u>
Undergraduate Studies Dean <u>Dan Meeroff</u>		<u>3/25/24</u>
UFS President _____		_____
Provost _____		_____

Email this form and attachments to mjenning@fau.edu seven business days before the UUPC meeting.

COMPUTER ENGINEERING

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (B.S.C.E.)

(Minimum of 123 credits required)

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 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:

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.

Program Summary

General Education	24
Mathematics	15
Science	9
Common Core	24 27
Computer Science - Computer Engineering Core	15
Computer Engineering - Electrical Engineering Core	18
Computer Engineering Core	3
Semi-Core Group	6 3
Electives	9
Total	123

General Education

Foundations of Written Communication	6
Foundations of Society and Human Behavior	6
Foundations of Global Citizenship	6
Foundations of Humanities	6
Subtotal	24

Mathematics

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 1	MAP 3305	3
Subtotal		15

Science

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
Subtotal		9

Core Courses

All students must take the following core courses, which total 60 credits.

Common Core

Introduction to Data Science and Analytics	CAP 4773	3
Computer Logic Design	CDA 3203	3
Computer Architecture	CDA 4102	3
Foundations of Computing*	COT 2000C	3
Programming 1	COP 2220	3
<u>Systems Programming with C++</u>	<u>COP 3274C</u>	<u>3</u>
<u>Introduction to Programming in Python</u>	<u>COP 3035C</u>	<u>3</u>
Stochastic Processes and Random Signals**	EEE 4541	3
RI: Engineering Design 1	EGN 4950C	3
RI: Engineering Design 2	EGN 4952C	3
Subtotal		24 27

* MAD 2104 may be substituted for COT 2000C.

** STA 4821 may be substituted for EEE 4541.

Computer Science - Computer Engineering Core

Principles of Software Engineering	CEN 4010	3
Communication Networks	CNT 4007	3
<u>Introduction to Software Design</u>	<u>CEN 3062C</u>	<u>3</u>
Programming 2	COP 3014	3
Data Structures and Algorithm Analysis	COP 3530 <u>COP 3530C</u>	3
Computer Operating Systems	COP 4610	3
Subtotal		15

Computer Engineering - Electrical Engineering Core

Design of Digital Systems and Lab	CDA 4240C	3
Electronics 1	EEE 3300	3
Circuits 1	EEL 3111	3

Electronics Laboratory 1	EEL 3118L	3
Signals and Digital Filter Design	EEL 3502	3
Fundamentals of Engineering	EGN 1002	3
Subtotal		18

Computer Engineering Core

Introduction to Embedded System Design	CDA 4630	3
Subtotal		3

Semi-Core Courses

All students must take ~~6~~ **3** credits from the Semi-Core Group.

Computer Engineering Semi-Core Group (Select ~~two~~ **one** courses)

Introduction to VLSI Design	CDA 4210	3
Hardware Security	CDA 4323	3
Hardware Software Codesign	CEN 4214	3
Introduction to the Internet of Things and Sensor Networks	CNT 4164	3
Electronics 2 and Lab	EEE 4361C	3
Subtotal		6 3

Electives

All students must take 9 credits of approved elective courses. Certain 3000- and 4000-level courses offered by the Electrical Engineering and Computer Science Department may be taken as Computer Engineering electives. Certain 5000- or 6000-level courses offered by the Electrical Engineering and Computer Science Department may be taken as Computer Engineering electives. Students must see an advisor for a current list of approved elective courses.

Computer Engineering Electives **9**

Students are permitted to take no more than the equivalent of one course (3 credits) of the following three courses as a Computer Engineering elective. ~~The following courses may be taken as a Computer Engineering elective.~~

Professional Internship	IDS 3949	0-3
Directed Independent Study	COT 4900	1-3
Directed Independent Research	EGN 4915	1-3

Professional Internship

Students must have completed COP 3530C, Data Structures and Algorithm Analysis with a minimum grade of "C" before being eligible to register for a professional internship. Approval through the Career Center is required prior to enrollment.

Directed Independent Study and Directed Independent Research

Students must have completed ~~COP 3530~~ **COP 3530C**, Data Structures and Algorithm Analysis, with a minimum grade of "C" before being eligible to register for directed independent study **or Directed Independent Research**. ~~Students are permitted to take no more than the equivalent of one course (3 credits) to satisfy degree requirements.~~

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.

SECOND BACHELOR'S B.S.C.E. DEGREE

This program is for those individuals with a degree in another discipline who are seeking a Bachelor of Science 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 at least 15 credits in mathematics, 9 credits in science and ~~63~~ **60** credits in core courses listed in the Computer

Engineering degree program. Each course must be completed with a minimum grade of "C."

Undergraduate Transfer Students

Prior to the academic advising session, course 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 providing course syllabi. The Academic Advisor evaluation needs to be performed even if a student has an evaluation by an approved agency.