Bachelor of Science in Computer Engineering (Changes effective spring 2016 unless otherwise noted.)

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 *Transfer Student Manual* 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.

Transfer students should have completed 60 credits at an approved lower-division college or university and the following required courses (see Degree Requirements for required minimum grades).

		Minimum No. of Credits
English Composition		6
Social Science		6
Humanities		6
Additional Humanities or Social Science		6
Calculus (complete sequence)	MAC 2311, 2312, 2313 **or** MAC 2281, 2282, 2313	12
Physics for Engineers with Labs (complete sequence) (Change effective summer 2016.)	PHY 2048, 2043 2048L, 2044, 2049L	8
General Chemistry 1 with Lab (for science majors)	CHM 2045, 2045L	4
Differential Equations 1	MAP 2302 **or**	3 **or**
Engineering Math 1	MAP 3305	3
Introduction to Programming in C	COP 2220	3
Fundamentals of Engineering*	EGN 1002	3

* Students are expected to take Fundamentals of Engineering during their freshman year. Students who enter the program with at least 30 credits and have not taken Fundamentals of Engineering or an equivalent course can instead elect to take Software-Hardware Codesign (CEN 4214).

The number of credits in each course may vary by institution.

Pre-engineering A.A. programs at most community or state colleges allow students to complete most of the lower-division requirements.

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General   Degree   Requirements

The Bachelor of Science in Computer Engineering degree will be awarded to students who:

1.   Meet   all   admission   and   degree   requirements   of   the   department   and   University;

2. Complete the Computer Engineering core courses described below with at least a 2.5 GPA;

3. Obtain a grade of "C" or better in all engineering, science, mathematics and Writing Across Curriculum (Gordon Rule)   writing   courses;

2. 4. Complete the following specific degree requirements, which total 124 credits of the Computer Engineering program..

Specific Degree Requirements		
General Education Non-Technical (1)		
Foundations of Written Communication		6
Foundations of Society and Human Behavior		6
Foundations of Global Citizenship		6
Foundations of Creative Expressions		6
English Composition (2)		6
Social Science		6
Humanities		6
Additional Humanities or Social Science (3)		6
Subtotal		**24**

Mathematics and Science (2) (Lower Division)		
Calculus with Analytic Geometry 1 (4)	MAC 2311	4
Calculus with Analytic Geometry 2 (4)	MAC 2312	4
Calculus with Analytic Geometry 3 (4)	MAC 2313	4
Engineering Mathematics 1	MAP 3305	3
General Physics for Engineers 1 (4)	PHY 2048	3
General Physics Lab 1 (4)	PHY 2048L	1
Physics for Engineers 2 (4)	PHY 2044	3
General Physics Lab 2 (4)	PHY 2049L	1
General Chemistry 1	CHM 2045	3
General Chemistry 1 Lab	CHM 2045L	1
Subtotal		**27**

Notes:

(1) Four-year program students must meet specific requirements in these areas as described earlier in this catalog.

(2) See Writing Across Curriculum (Gordon Rule) writing requirements in the Degree Requirements section of this catalog.

(3) Two additional courses that satisfy FAU General Education requirements in humanities or social science.

Lower-Division Mathematics and Science		
~~Calculus (complete sequence)~~	~~MAC 2311, 2312, 2313 **or** MAC 2281, 2282, 2313~~	~~12~~
~~Engineering Math 1~~	~~MAP 3305~~	~~3~~
~~General Physics with Calculus and Labs (complete sequence)~~ (Change effective summer 2016.)	~~PHY 2043 or 2048 and PHY 2048L, **and** PHY 2044 or 2049 and PHY 2049L~~	~~8~~
~~General Chemistry 1 with Lab~~	~~CHM 2045, 2045L~~	~~4~~
~~Introduction to Programming in C~~	~~COP 2220~~	~~3~~
~~**Subtotal**~~		~~**30**~~

Computer Engineering Core Courses (5)		
Foundations of Computer Science	COP 3014	3
~~Foundations of Computer Science Lab~~	~~COP 3014L~~	~~1~~
Introduction to Logic Design	CDA 3201C	4
Introduction to Microprocessor Systems	CDA 3331C	4
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
~~Senior Seminar~~	~~COT 4935~~	~~1~~
Engineering Design 1	EGN 4950C	~~3~~ 2
Engineering Design 2	EGN 4952C	3
Discrete Mathematics	MAD 2104	3
Stochastic Models for Computer Science	STA 4821	3
Subtotal		34 ~~37~~ ~~34~~

Computer Engineering Semi-Core Courses (5) (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
Introduction to Java and Concurrency	COP 4633	3
CAD-Based Computer Design	CDA 4204	3
Subtotal		12

Other Engineering (5)	

Fundamentals of Engineering (3)	EGN 1002	3
Circuits 1	EEL 3111	3
Electronics 1	EEE 3300	4
Electronics Laboratory 1	EEL 3118L	2
Subtotal		**12**

Technical Electives (as approved by advisor) (5,6)	~~12~~ 15
Total	**124**

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 of Arts (A.A.) degree from a Florida community or state college.

(2) Pre-engineering A.A. programs allow students to satisfy most or all of these required courses.

(3) Fundamentals of Engineering is the preferred course; however, this course may not be available at all institutions. In certain instances, substitutions for this course may be allowed provided that the credits are a part of an approved pre-engineering A.A. degree program. Students are expected to take Fundamentals of Engineering during their freshman year. Students who enter the program with at least 30 credits and have not taken Fundamentals of Engineering or an equivalent course can instead elect to take Software-Hardware Codesign (CEN 4214).

(4) Grade of "C" or better is required.

(5) Need a "C" or better in all Computer Engineering core courses.

(6) 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.

~~* Students are expected to take Fundamentals of Engineering during their freshman year. Students who enter the program with at least 30 credits and have not taken Fundamentals of Engineering or an equivalent course can instead elect to take Software-Hardware Codesign (CEN 4214).~~

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~~**Sample Four-Year Program of Study for Bachelor of Science in Computer Engineering**~~

~~**First Year, Fall (14 credits)**~~		
~~College Writing 1**~~	~~ENC 1101~~	~~3~~
~~Calculus for Engineers 1~~	~~MAC 2281~~	~~4~~
~~Calculus with Analytic Geometry 1~~	~~MAC 2311~~	~~4~~
~~General Chemistry 1~~	~~CHM 2045~~	~~3~~
~~General Chemistry 1 Lab~~	~~CHM 2045L~~	~~1~~
~~Fundamentals of Engineering~~	~~EGN 1002~~	~~3~~

~~**First Year, Spring (14 credits)**~~		
~~Calculus for Engineers 2~~	~~MAC 2282~~	~~4~~
~~Calculus with Analytic Geometry 2~~	~~MAC 2312~~	~~4~~

General Physics for Engineers 1 (Change effective summer 2016.)	PHY 2048 2043	3
General Physics 1 Lab	PHY 2048L	1
Introduction to Programming in C	COP 2220	3
College Writing 2	ENC 1102	3
Foundations of Written Communication		3

Second Year, Fall (15 credits)		
Calculus with Analytic Geometry 3	MAC 2313	4
Physics for Engineers 2	PHY 2044	3
General Physics 2 Lab	PHY 2049L	1
Introduction to Logic Design	CDA 3201C	4
Foundations of Society and Human Behavior		3
FAU Core*		3

Second Year, Spring (14 credits)		
Introduction to Microprocessor Systems	CDA 3331C	4
Foundations of Computer Science	COP 3014	3
Foundations/Computer Science Lab	COP 3014L	1
Engineering Math 1	MAP 3305	3
Foundations of Creative Expression		3
FAU Core*		3

Second Year, Summer (9 credits)		
Circuits 1	EEL 3111	3
Discrete Mathematics	MAD 2104	3
Foundations of Global Citizenship		3
FAU Core*		3

Third Year, Fall (16 credits)		
Data Structures and Algorithm Analysis	COP 3530	3
CE Semi-Core Course		3
Electronics 1	EEE 3300	4
Stochastic Models for Computer Science	STA 4821	3
Foundations of Society and Human Behavior		3
FAU Core*		3

Third Year, Spring (14 credits)		
CE Semi-Core Course		3
Principles of Software Engineering	CEN 4010	3
Electronics Laboratory 1	EEL 3118L	2
CE Semi-Core Course		3

Foundations of Creative Expression		3
FAU Core*		3

Fourth Year, Fall (16 total credits)		
Senior Seminar	COT 4935	1
CE Semi-Core Course		3
Technical Electives #		9
Engineering Design 1	EGN 4950C	3

Fourth Year, Spring (12 total credits)		
Computer Operating Systems	COP 4610	3
Engineering Design 2	EGN 4952C	3
Technical Elective #		3
FAU Core*		3
Foundations of Global Citizenship		3
Total		**124**

* FAU Core: One of the humanities or social science courses listed elsewhere in the catalog that satisfies the FAU Core Curriculum requirements for all four-year students. These include courses that satisfy the writing component for Writing Across the Curriculum (Gordon Rule); these must be passed with a "C" or better. See an advisor to discuss satisfying these with the minimum number of credits.

** Must be passed with a "C" or better.

Technical electives: These must be approved by an advisor. Three, one-semester periods of Cooperative Education - Computer Engineering (COT 3949) can be counted as one computer engineering technical elective.

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.

Cooperative   Education
Students in the Computer Science, Computer Engineering and Information Engineering Technology programs are encouraged to consider gaining practical experience through participation in Cooperative Education. Three, one-semester periods of Cooperative Education (COT 3949) may be substituted for one program technical elective. For information, contact the FAU Career Center, 561-297-3533 or visit its website at www.fau.edu/cdc.

Directed   Independent   Study
Students in the Computer Science, Computer Engineering and Information Engineering Technology 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.

Approved by:	Date:
Department Chair: *[signature]*	3/22/16
College Curriculum Chair: *[signature]*	3/22/16
College Dean: *[signature]*	3/22/2016
UUPC Chair: *[signature]*	4/6/16
Undergraduate Studies Dean: *[signature]* Edward Pratt	4/6/16
UFS President: _____	_____
Provost: _____	_____