FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Undergraduate Programs

UUPC Approval 2-1-21
UFS Approval _____
Banner Posted _____
Catalog _____

Department CEECS

College CoE&CS

Program Name
BSCS Computer Science

☐ **New Program**

☑ **Change Program**

Effective Date
(TERM & YEAR)
Fall 2021

Please explain the requested change(s) and offer rationale below or on an attachment

Minor catalog changes required by ABET 2020 review.
1. All courses that count toward the degree must be completed with grade of "C" or better.
2. Math minors can substitute STA4032 for STA4821
3. Cleaned up language related to computer science technical electives

Faculty Contact/Email/Phone
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Consult and list departments that may be affected by the change(s) and attach documentation

Approved by	***Date***
Department Chair Hanqi Zhuang	1-15-21
College Curriculum Chair Dan Moorhoff	1-19-21
College Dean Frederick Bloetscher	1-20-21
UUPC Chair Jerry Haky	2-2-21
Undergraduate Studies Dean Edward Pratt	2-2-21
UFS President	
Provost	

Email this form and attachments to mjenning@fau.edu one week before the UUPC meeting so that materials may be viewed on the UUPC website prior to the meeting.

In Computer Science:

Degree Requirements
The minimum number of credits required for the Bachelor of Science in Computer Science (B.S.C.S.) degree is 120 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 satisfy all admission and degree requirements for the department. Items below are referenced in the table following the list.

(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 satisfied normally if a student has an Associate of Arts (A.A.) degree from a Florida community or state college.

~~(2) Complete all computer science core courses with a grade of "C" or better.~~

~~(3) Complete calculus 1 and 2 and discrete mathematics with a grade of "C" or better in each of the courses.~~

(2) See advisor for approved courses.

~~**(3) Complete two natural science courses with minimum grades of "C."**~~ (3) At least one course must have a laboratory component.

(4) For those students who are also pursuing a math minor, STA4032, Probability and Statistics for Engineers, can be substituted for STA 4821, Stochastic Models for Computer Science.

Pass/Fail Grades: Note that while the University may offer some courses with the pass/fail option, Computer Science students may not use this option.

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

Mathematics (1) (Lower Division)		
Calculus with Analytic Geometry 1 ~~(3)~~	MAC 2311	4
Calculus with Analytic Geometry 2 ~~(3)~~	MAC 2312	4
Discrete Mathematics ~~(3)~~	MAD 2104	3
Additional Math Elective		3 or 4
Subtotal		14 **or 15**

Science ~~(5)~~(3) (Lower Division)		
Biological Principles	BSC 1010	3
Biological Principles Lab	BSC 1010L	1
General Chemistry 1	CHM 2045	3

General Chemistry 1 Lab	CHM 2045L	1
General Physics for Engineers 1 ~~(3)~~	PHY 2048	3
General Physics Lab 1 ~~(3)~~	PHY 2048L	1
Physics for Engineers 2 ~~(3)~~	PHY 2044	3
General Physics Lab 2 ~~(3)~~	PHY 2049L	1
Physical Geology/Evolution of the Earth	GLY 2010C	4
Subtotal		**7 or 8**

Top

Core Courses
All students must take the following core courses, which total 46 credits:

Computer Science Core ~~(2)~~		
Introduction to Programming in C	COP 2220	3
Foundations of Computer Science	COP 3014	3
Introduction to Logic Design	CDA 3201C	4
Data Structures and Algorithm Analysis	COP 3530	3
Introduction to Internet Computing	COP 3813	3
Computer Operating Systems	COP 4610	3
Stochastic Models for Computer Science (4)	STA 4821	3
Introduction to Database Structures	COP 3540	3
Introduction to Microprocessor Systems	CDA 3331C	3
Formal Languages and Automata Theory	COT 4420	3
Design and Analysis of Algorithms	COT 4400	3
Principles of Software Engineering	CEN 4010	3
Programming Languages	COP 4020	3
RI: Engineering Design 1 (Course research intensive eff. spring 2021)	EGN 4950C	3
RI: Engineering Design 2 (Course research intensive eff. spring 2021)	EGN 4952C	3
Subtotal		**46**
Computer Science Technical Electives ~~(4)~~ (2)		18
Free Electives ~~(4)~~ (2)		10 or 11
Total		**120**

Computer Science Technical Electives
To satisfy the computer science (CS) technical elective requirement, all students must take 18 ~~21~~ credits chosen from Computer Science and Computer Engineering upper-division courses that are not in the ~~above CS~~ Computer Science core. Certain 5000-level or 6000-level courses may be taken as ~~CS electives~~ Computer Science Technical Electives. Students must see an advisor for a current list of ~~elective~~ approved courses. Students seeking a specialty may consider taking electives in an area of study. A few suggested areas of concentration follow.

Internet Technology		
Introduction to Data Communications	CNT 4104	3

Foundations of Cybersecurity	CNT 4403	3
Mobile App Projects	COP 4655	3
Applied Database Systems	COP 4703	3

Software Engineering		
Software Engineering Project	CEN 4910	3
Python Programming	COP 4045	3
Object-Oriented Design and Programming	COP 4331	3

Cybersecurity		
Cyber Physical System Security	CIS 4213	3
Operating Systems Security	CIS 4367	3
Foundations of Cybersecurity	CNT 4403	3
Network and Data Security	CNT 4411	3

Data Science		
Introduction to Deep Leaning	CAP 4613	3
Introduction to Artificial Learning	CAP 4630	3
Introduction to Data Mining and Machine Learning	CAP 4770	3
Introduction to Data Science and Analytics	CAP 4773	3

Computer Architecture		
Structured Computer Architecture	CDA 4102	3
Introduction to VLSI	CDA 4210	3
CAD-Based Computer Design	CDA 4204	3

The following courses may be taken as computer science electives. The group classification will be designated when offered:

Topics in Computer Science	COT 4930	1-3
Topics in Computer Science	COT 5930	1-3
Directed Independent Study	COT 4900	1-3

Special permission is required to count more than 3 credits of directed independent study. Up to 3 computer science elective credits can be earned by taking