



DO NOT TYPE IN THIS BOX

Bulletin #: 3  
Academic Year: 2019-20

# FLORIDA INTERNATIONAL UNIVERSITY UNDERGRADUATE PROGRAM PROPOSAL

## Changes to an Undergraduate Degree Program

**INSTRUCTIONS:** Please Type. Fill out this form **completely**.

School/College Engineering and Computing

Div./Dept. School of Computing and Information Sciences

Degree Title: Bachelor of Science in Computer Science

B.A.     B.S.     Other Bachelor's \_\_\_\_\_

Proposed Implementation Date: 8/24/2020

**PROPOSAL REQUESTED BY:**

Faculty Contact Nagarajan Prabakar

11 / 25 / 20 19

(Type Name)

(Signature)

prabakar@cis.fiu.edu

305-348-2033

(Email address)

(Phone Number)

Chair (Dept./Div.) S.S. Iyengar

11 / 25 / 20 19

(Type Name)

(Signature)

Chair (Curr. Comm.) Wei-Chiang Lin

12 / 5 / 20 19

(Type Name)

(Signature)

College/School Dean John Volakis

12 / 10 / 20 19

(Type Name)

(Signature)

NO HEARING REQUIRED. PLEASE SUBMIT ORIGINAL FORM.

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Bulletin #: 3  
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## **CHANGES TO UNDERGRADUATE DEGREE PROGRAM**

PLEASE SUBMIT THIS FORM WITH YOUR PROPOSAL

Please fill out the coversheet in its entirety.

The proposal must include the following elements using the current undergraduate catalog:

- I. List old Degree prescribed courses, other requirements, credits and page number (left column)
- II. List new Degree prescribed courses, other requirements and credits (right column)
- III. Include a brief rationale for the change

### CHECK LIST

- |   | Yes                                 | No                                  |
|---|-------------------------------------|-------------------------------------|
| 1. Do all courses exist in the current catalog?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 2. If courses are not in the current catalog, are they proposed in the same Curriculum Committee Bulletin as this proposal?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 3. If courses are not in the current catalog or proposed in this same bulletin, were they approved in a previous curriculum bulletin?   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| If yes, attach a separate sheet indicating each course number, name, Bulletin number and Bulletin date.   |                                     |                                     |
| If the answers to 1, 2, and 3 are no, do not submit the proposal. Address the course issues first.  |                                     |                                     |
| 4. Do courses listed have the correct course prefixes, official titles, course numbers and number of credits?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 5. Are all courses to be added or changed taught in the same proposing departments?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 6. Are courses to be deleted taught in the same proposing department?   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| If the answer to #5 or #6 is no, do you have the written approval/acknowledgment of the other department(s)? (You must have written approval before submitting this document.)  |                                     |                                     |
|   | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 7. The written approval(s)/acknowledgment(s) must be attached.  |                                     |                                     |
| 8. Does this change affect the courses measuring Student Learning Outcomes (SLO) or Program Outcomes (PO) for the program (for a copy of the assessment reports, please send a request to <a href="mailto:assessment@fiu.edu">assessment@fiu.edu</a> )? |                                     |                                     |

If yes, please submit revised SLO and PO to [assessment@fiu.edu](mailto:assessment@fiu.edu).

Faculty Senate 07/2016

## **Bachelor of Science in Computer Science**

### **Justification for Program Catalog Changes**

Currently, CS majors take the senior project (3-credits) in their last term. Since completing the senior project in one term demands a significant amount of time, students are unable to take other classes in the last term. To balance the load and to expedite the graduation time, it is necessary to complete the senior project in two terms with Capstone I (1-credit CIS-3XXX) followed by Capstone II (2-credits CIS-4XXX).

Students who are admitted before Fall 2020 are also strongly encouraged to take Capstone I and II, but to accommodate them, they may fulfill the capstone requirement by completing CIS-4911 (3-credits "Senior Project") or IDS-4918 (3-credits "Vertically Integrated Project - C") in one term.

The proposed changes will accelerate the 4-year graduation rate without any increase to the total number of credits.

Further, two elective (CTS-4408 and CAP-4602) courses are included in the appropriate elective (Systems and Applications) groups.

# FLORIDA INTERNATIONAL UNIVERSITY UNDERGRADUATE PROGRAM/CATALOG CHANGE PROPOSAL

## FIU Undergraduate Catalog

Current (2018-2019 Bulletin#6)	Proposed																																																
<p><b>Bachelor of Science in Computer Science</b> <b>Degree Program Hours: 120</b></p> <p>The Bachelor of Science program in Computer Science is accredited by the Computing Accreditation Commission (ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – Telephone (410) 347-7700.</p> <p>Students must follow regular University admission procedures and upon admission declare their specific major as Computer Science. Two tracks are available in the program. The <b>Computer Science track</b> should be followed by the student who intends to continue to graduate study in computer science. The <b>Software Design and Development track</b> may be followed by the student who intends to pursue a software engineering career.</p> <p>All required courses must be completed with a grade of "C" or better. All students must participate in SCIS assessment activities and successfully complete an exit interview prior to graduation.</p> <p><b>Lower Division</b></p> <p>Students must complete the following courses as part of their course work, preferably during the first 60 credits and complete COP 2210 with a grade of "C" or higher:</p> <p><b>Common Prerequisite Courses and Equivalencies</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>FIU Course(s)</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>Equivalent Course(s)</u></th> </tr> </thead> <tbody> <tr> <td>COP 2210</td> <td>COPXXXX<sup>1</sup></td> </tr> <tr> <td>MAC 2311</td> <td>MACX311 or MACX281</td> </tr> <tr> <td>MAC 2312</td> <td>MACX312 or MACX282</td> </tr> <tr> <td>PHY 2048, PHY 2048L</td> <td>PHYX048/X048L or PHYX048C</td> </tr> <tr> <td>PHY 2049, PHY 2049L</td> <td>PHYX049/X049L or PHYX049C</td> </tr> <tr> <td>XXXXXXX<sup>3</sup></td> <td>XXXXXXX<sup>2</sup></td> </tr> </tbody> </table> <p><sup>1</sup><i>Intro Programming in C, C++, JAVA, or equivalent language. 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 \*Two additional one-semester courses in natural science; each of these should be a course designed for science or engineering majors. A list of additional approved courses is available through the School of Computing and Information Sciences.

### Upper Division Requirements

At least 50% of the upper division credits required for the BS in Computer Science must be taken at FIU.

### Courses Required for the Degree: (both tracks)

#### Third and Fourth Years

CGS 1920	Introduction to Computing	1
	<b>or</b>	
COP 1000	Computer Science for Everyone	3
	<b>or</b>	
IDC 1000	Intro to Computer Programming	3
MAD 2104	Discrete Mathematics	3
	<b>or</b>	
COT 3100	Discrete Structures	3
ENC 3249	Professional and Technical Writing for Computing	3
STA 3033	Introduction to Probability and Statistics for CS	3
CGS 3095	Technology in the Global Arena – GL	3
COP 3337	Computer Programming II	3
COP 4338	Systems Programming	3
CDA 3XXX	Computer Architecture	3
COP 3530	Data Structures	3
CEN 4010	Software Engineering I	3
COP 4610	Operating Systems Principles	3
*CIS 4911	Senior Project	3

#### Additional required courses for SDD track

CEN 4021	Software Engineering II	3
**CEN 4072	Fundamentals of Software Testing	3

\*Options for CIS 4911:

- Students may enroll in a special section of CIS 4911 by registering in IDS 4918, which is administered and graded by the Senior Project Coordinator;

\* -CIS4911 for SDD-track students must be a software engineering-focused project.

\*\*With the permission of an SCIS UG advisor students can register for CEN 5064 Software Design and then substitute CEN 5064 for CEN 4072.

#### Computer Science Elective Groups

The list of courses for each elective group is maintained by the School of Computing and Information Sciences. The lists include the following elective courses:

**Foundations:** CAP 4506, CAP 4534, COP 4555, COT 3541, COT 4521, MAD 3305, MAD 3401, MAD 3512, MAD 4203, MHF 4302

**Systems:** CAP 4453, CDA 4625, CEN 4083, CNT 4713, COP 4520, COP 4604, COP 4710, COP 4722

PHY 2049 Physics with Calculus II  
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*CIS 3XXX	Capstone I	1
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\*Options for ~~CIS 4911~~Capstone:

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**Systems:** CAP 4453, CDA 4625, CEN 4083, CNT 4713, COP 4520, COP 4604, COP 4710, COP 4722, CTS 4408

**Applications:** CAP 4104, CAP 4630, CAP 4641, CAP 4710, CAP 4770, CEN 4021, CEN 4072, COP 4226

CS-track students must complete one course from each of the three elective groups and must complete six additional elective courses from these elective groups.

SDD-track students must complete one course from Foundations group, one course from Systems group, and must complete five additional elective courses from these elective groups.

**NOTE:** Graduate courses can also be used to satisfy elective requirements. Please see adviser for approval. Graduate courses are subject to graduate fees.

*Remarks:* The following courses are not acceptable for credit toward graduation, unless a student has passed the course before declaring a Computer Science major: CGS 2060, CGS 3300, CGS 2100, COP 3175, MAC 2233, STA 1013, STA 2023, STA 2122, STA 3123, QMB 3200, ESI 3161.

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**Rationale:** Please see the attached justification to this program catalog change proposal.