



**DO NOT TYPE IN THIS BOX**  
 Bulletin #: \_\_\_\_\_  
 Academic Year: \_\_\_\_\_

# 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

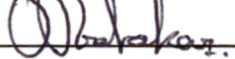
Div./Dept. School of Computing and Information Sciences

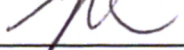
Degree Title: Bachelors in Computer Science

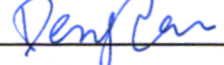
B.A.     B.S.     Other Bachelor's \_\_\_\_\_


Proposed Implementation Date: Spring 2015

**PROPOSAL REQUESTED BY:**

Faculty Contact Nagarajan Prabakar  9 / 15 / 20 14  
(Type Name) (Signature)  
prabakar@cis.fiu.edu 305-348-2033  
(Email address) (Phone Number)

Chair (Dept./Div.) Mark Weiss  9 / 15 / 20 14  
(Type Name) (Signature)

Chair (Curr. Comm.) Deng Pan  9 / 23 / 20 14  
(Type Name) (Signature)

College/School Dean Amir Mirmiran  9 / 23 / 20 14  
(Type Name) (Signature)

**NO HEARING REQUIRED. PLEASE SUBMIT ORIGINAL FORM.**

**DO NOT TYPE IN THIS BOX**

Bulletin #: \_\_\_\_\_

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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 - Check only those that apply**

	<b>Yes</b>	<b>No</b>
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 checked="" 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. Do course descriptions match the existing catalog or proposed course descriptions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Are all courses to be added or changed taught in the same proposing department?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are courses to be deleted taught in the same proposing department?	<input type="checkbox"/>	<input type="checkbox"/>
If the answer to #6 or #7 is no, do you have the written approval/ acknowledgement of the other department(s)? (You must have written approval before submitting this document.)		
	<input type="checkbox"/>	<input type="checkbox"/>
9. The written approval(s)/acknowledgment(s) must be attached.		

# FLORIDA INTERNATIONAL UNIVERSITY UNDERGRADUATE PROGRAM/CATALOG CHANGE PROPOSAL

## FIU Undergraduate Catalog

Current (2014-2015)	Proposed																																																								
<p><b>Bachelor of Science in Computer Science</b></p> <p><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>Two tracks are available in the upper division 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 and elective 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;">FIU Course(s)</th> <th style="text-align: left; border-bottom: 1px solid black;">Equivalent Course(s)</th> </tr> </thead> <tbody> <tr> <td>COP 2210</td> <td>COPXXXX<sup>1</sup></td> </tr> <tr> <td>MAC 2311</td> <td>MACX311</td> </tr> <tr> <td>MAC 2312</td> <td>MACX312</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>XXXXXXXX<sup>3</sup></td> <td>XXXXXXXX<sup>2</sup></td> </tr> </tbody> </table> <p><sup>1</sup>Intro Programming in C, C++, JAVA, or equivalent language. Choose programming language required by the university to which the student wishes to transfer.</p> <p><sup>2</sup>Science course for science majors.</p> <p>Courses which form part of the statewide articulation between the State University System and the Florida College System will fulfill the Lower Division Common Prerequisites. For generic course substitutions/equivalencies for Common Program Prerequisites offered at community colleges, state colleges, or state universities, visit: <a href="http://www.flvc.org">http://www.flvc.org</a>. 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<sup>3</sup>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
MAD 2104	Discrete Mathematics	3
ENC 3249	Professional and Technical Writing for Computing	3
COT 3420	Logic for Computer Science	3
MAD 3512	Introduction to Theory of Algorithms	3
STA 3033	Introduction to Probability and Statistics for CS	3
CGS 3095	Technology in the Global Arena	3
COP 3337	Computer Programming II	3
COP 4338	Computer Programming III	3
CDA 4103	Fundamentals of Computer Systems	3
COP 3530	Data Structures	3
COP 4555	Principles of Programming Languages	3
COP 4710	Database Management	3
CDA 4101	Structured Computer Organization	3
CEN 4010	Software Engineering I	3
CNT 4713	Net-Centric Computing	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

\*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 Electives

**CS-track students must complete three courses from the following list.**

**SDD-track students must complete one course from the following list in addition to CEN 4021 and CEN 4072.**

CAP 4710	Principles of Computer Graphics	3
CAP 4770	Introduction to Data Mining	3
CEN 4021	Software Engineering II	3
CEN 4072	Fundamentals of Software Testing	3
CNT 4406	Network Security and Cryptography	3
COP 4226	Advanced Windows Programming	3
COP 4604	Advanced Unix Programming	3
COP 4520	Introduction to Parallel Programming	3
COP 4722	Survey of Database Systems	3
CEN 4038	Introduction to Cloud Computing	3
MAD 3305	Graph Theory	3
MAD 3401	Numerical Analysis	3
MAD 4203	Introduction to Combinatorics	3

<sup>3</sup>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

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COP 3530	Data Structures	3
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CNT 4713	Net-Centric Computing	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

\*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 Electives

**CS-track students must complete three courses from the following list.**

**SDD-track students must complete one course from the following list in addition to CEN 4021 and CEN 4072.**

<b>CAP 4453</b>	<b>Introduction to Robot Vision</b>	<b>3</b>
CAP 4710	Principles of Computer Graphics	3
CAP 4770	Introduction to Data Mining	3
CEN 4021	Software Engineering II	3
CEN 4072	Fundamentals of Software Testing	3
CNT 4406	Network Security and Cryptography	3
COP 4226	Advanced Windows Programming	3
COP 4604	Advanced Unix Programming	3
COP 4520	Introduction to Parallel Programming	3
COP 4722	Survey of Database Systems	3
<b>CEN 4083</b>	<b>Introduction to Cloud Computing</b>	<b>3</b>
<b>COT 4521</b>	<b>Introduction to Computational Geometry</b>	<b>3</b>
MAD 3305	Graph Theory	3
MAD 3401	Numerical Analysis	3
MAD 4203	Introduction to Combinatorics	3

<p>MHF 4302 Mathematical Logic 3</p> <p><b>NOTE:</b> Graduate courses can also be used to satisfy elective requirements. Please see adviser for approval. Graduate courses are subject to graduate fees.</p> <p><i>Remarks:</i> 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.</p>	<p>MHF 4302 Mathematical Logic 3</p> <p><b>NOTE:</b> Graduate courses can also be used to satisfy elective requirements. Please see adviser for approval. Graduate courses are subject to graduate fees.</p> <p><i>Remarks:</i> 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.</p>
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**Rationale:**

- The new course CAP 4453 “Introduction to Robot Vision” is a new Computer Science Elective that is proposed in 2014-2015 Bulletin #1.
- The course number for “Introduction to Cloud Computing” is changed from CEN 4038 to the correct course number CEN4083.
- COT 4521 “Introduction to Computational Geometry” is added to the Elective list since this new course was approved in 2013-2014 Bulletin#6.