



**DO NOT TYPE IN THIS BOX**

Bulletin #: 6  
Academic Year: 2022-23

# FLORIDA INTERNATIONAL UNIVERSITY UNDERGRADUATE PROGRAM PROPOSAL

## New Undergraduate Minor

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

School/College Engineering and Computing

Div./Dept. Knight Foundation School of Computing and Information Sciences

Minor Name: Minor in Cybersecurity

Degree Name: \_\_\_\_\_  Not Applicable

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

Proposed Implementation Date: 01/01/2024

### **PROPOSAL REQUESTED BY:**

Faculty Contact Patricia McDermott-Wells *Patricia McDermott-Wells* 3 / 23 / 20 23

(Type Name)

(Signature)

mcdwells@fiu.edu

561-798-3940

(Email address)

(Phone Number)

Chair (Dept./Div.) Jason Liu *Jason Liu* 3 / 23 / 20 23

(Type Name)

(Signature)

Chair (Curr. Comm.) Alex Afanasyev *Alex Afanasyev* 3 / 25 / 20 23

(Type Name)

(Signature)

College/School Dean John Volakis *John Volakis*  / / 20 23

(Type Name)

(Signature)

**HEARING REQUIRED. PLEASE SUBMIT ORIGINAL FORM.**



To: Mary Cossio  
Faculty Senate

From: Dean or Assoc. Dean and College Curriculum Cmte. Chair

**Subject: Memo in Lieu of Curriculum Chair and Dean Signatures for Bulletin #6**

Date: March 25, 2023

---

As instructed by the Faculty Senate, this memo will serve as approval of the attached proposals for Bulletin #6 by our Curriculum Committee Chair, Alexander Afanasyev, and the Dean for College of Engineering and Computing (John L. Volakis), in lieu of physical signatures. The proposals in this Bulletin were approved by our Curriculum Committee on March 23, 2023.

**DO NOT TYPE IN THIS BOX**

Bulletin #: 6

Academic Year: 2022-23

***NEW UNDERGRADUATE MINOR***  
PLEASE SUBMIT THIS FORM WITH YOUR PROPOSAL

**Please fill out the coversheet in its entirety.**

---

**The proposal must include the following elements:**

- I. Minor description
  - II. Rationale for new minor: types of students, expected number of students and documentation, community need/relevance
  - III. Impact of this minor on other units
  - IV. Brief description of the related major program (if any)
  - V. Required credits (minors require a minimum of 12 credits)
  - VI. Prescribed required courses and other requirements (include new courses)
  - VII. Resources required: faculty, library, facilities (including laboratories)
  - VIII. Budget requirements
  - IX. Proposed catalog copy
- 

**Complete the checklist that begins on the following page.**

---

- |  | YES                                 | NO                                  | N/A                                 |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Do all courses exist in the current catalog?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. If courses are not in the current catalog, are they proposed in the same Curriculum Committee bulletin as this proposal?  | <input type="checkbox"/>            | <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 checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| <ul style="list-style-type: none"> <li>• If yes, attach a separate sheet indicating each course number, name, bulletin number, and bulletin date.</li> <li>• If the answers to 1, 2, and 3 are no, do not submit the proposal. Address the course issues first.</li> </ul> |                                     |                                     |                                     |
| 4. Do courses listed have the correct course prefixes, official titles, course numbers, and number of credits?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 5. Do you have written approval/acknowledgment to include courses taught in departments/schools other than the proposing department? (You must have written approval before submitting this document.)   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <ul style="list-style-type: none"> <li>• If yes, the written approval(s) or acknowledgment(s) must be attached to the proposal.</li> </ul>   |                                     |                                     |                                     |

**Clear Form**

# Minor in Cybersecurity – Proposal

## I. Minor Description:

This minor introduces the student to the many and varied careers in the cybersecurity arena, as well as providing an understanding of how cybersecurity is an important aspect of all things digital. Students will gain a solid foundation in cybersecurity concepts, including vulnerabilities, risks, and possible mitigations. These foundations will help prepare a student to investigate various career paths or career specialties related to cybersecurity.

## II. Rationale:

Professionals with cybersecurity skills are in high demand across a wide variety of career paths. International Information System Security Certification Consortium ((ISC)<sup>2</sup>), the world's largest nonprofit association of certified cybersecurity professions, states in their 2022 workforce study that there is a need for more than 3.4 million security professionals, an increase of over 26% from 2021. *“More cybersecurity professionals are getting their start outside of IT— 17% transitioned from unrelated career fields, 15% gained access through cybersecurity education and 15% explored cybersecurity concepts independently. Alternate points of entry are more common for women than men – only 38% of female participants started their careers in IT compared to 50% of male participants.”*<sup>1</sup>

This minor will help prepare non-KFSCIS students to qualify for less-tech-centric cybersecurity careers or specialties within their major profession, as well as complement their major area with additional skills. This minor will also help prepare undergraduate students from non-KFSCIS majors to enter the MS in Cybersecurity program.

## III. Impact of the Minor on Other Units

This minor will enhance the career prospects of students in many other majors, most notably Criminal Justice, Business School majors, and SIPA Public Policy majors.

## IV. Related Major Program

The BS in Cybersecurity major degree program prepares students for technical careers in cybersecurity areas such as data security, systems security management, network threat analysis, digital forensics, and security risk management.

## V. Required Credits:

The required courses constitute 15 credits:

- [CTS 1XXX](#) Emerging Topics in Digital Life (new course – approved in Fall 2022 Bulletin#3)
- [COP 2210](#) Programming I<sup>2</sup> or [COP 2250](#) Programming in Java or [COP 2270](#) Secure C Programming for Engineers
- [CGS 3767](#) Computer Operating Systems
- [CGS 4285](#) Applied Computer Networking
- [CNT 4403](#) Computing and Network Security

KFSCIS maintains a list of suggested optional elective courses in the flowchart on the KFSCIS web portal.

## VI. Prescribed Required Courses and Other Requirements

- Please see the attached CY-Minor-Course-Flowchart.
- KFSCIS Major students cannot take this minor

---

<sup>1</sup> <https://www.prnewswire.com/news-releases/isc-cybersecurity-workforce-study-sheds-new-light-on-global-talent-demand-amid-a-lingering-pandemic-301408345.html>

<sup>2</sup> This is a 4-credit course, bringing the total required credits to 16.

## VII. Resources Required

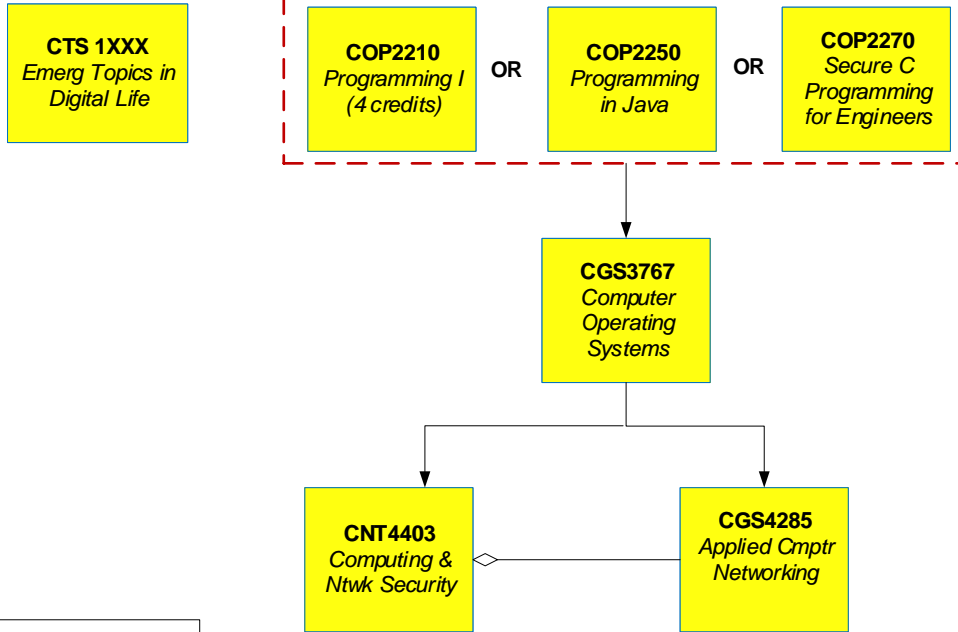
- All courses (required and electives) except two (CTS 1XXX and CIS 4203) are already regularly offered by current faculty in KFSCIS in College of Engineering.
- CIS 4203 Digital Forensics will be offered starting in Summer 2023
- CTS 1XXX “Emerging Topics in Digital Life” is approved by the Faculty Senate in Bulletin#3 and will be offered starting in Fall 2023

## VIII. Budget Requirements

All courses required for the Cybersecurity Minor are taught by KFSCIS for the BS in Cybersecurity and BS in Information technology majors. Hence, there is no additional budget requirement to support this minor.

## IX. Proposed Catalog Copy

Please see the attached CY-Minor-Catalog



All courses are 3 credits, except as noted.

- CY Minor: Suggested Optional Electives**
- CIS 4203 Principles and Practices of Digital Forensics Science
  - CIS 4365 Enterprise Cybersecurity (prereq: CNT4403)
  - CNT 4182 Mobile & IoT Security (Prereq: CNT4403)

↓  
A line indicates a prerequisite. The course above must be completed before the course below can be taken.

◇  
A diamond indicates a co-requisite. The course closer to the diamond may be taken at the same time as the co-requisite. The co-requisite is a prerequisite for any course that requires the course closer to the diamond.

## Minor in Cybersecurity

A minor program is an arrangement of courses enabling a student to develop a degree of expertise and knowledge in an area of study in addition to his or her major academic program of study. A student with a major that has a significant overlap with Cybersecurity must first obtain permission from a KFSCIS advisor. KFSCIS major students cannot take this minor.

### Required Courses

CTS 1XXX	Emerging Topics in Digital Life	3
COP 2210	Computer Programming I <sup>1</sup>	4
	<b>or</b>	
COP 2250	Programming in Java	3
	<b>or</b>	
COP 2270	Secure C Programming for Engineers	3
CGS 3767	Computer Operating Systems	3
CGS 4285	Applied Computer Networking	3
CNT 4403	Computing and Network Security	3

KFSCIS maintains a list of suggested optional elective courses in the flowchart on the KFSCIS web portal. Students should ensure that he or she has the necessary prerequisites for the chosen courses. At least nine of the credits for the minor must be taken from KFSCIS. Four of the minor courses cannot be courses that may be applied to the major program of the student.

---

<sup>1</sup> This is a 4-credit course, bringing the total required credits to 16.

**New Course: CTS 1XXX “Emerging Topics in Digital Life”**

This new course was approved by the Faculty Senate in Bulletin# 3, on February 21, 2023.

The link to the new course proposal on the Faculty Senate website:

<https://intranet.fiu.edu/curriculum/Courses/2022-2023-B3-NC-5050.pdf>