

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)²), 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.”*¹

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 I² 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

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

² 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