

MEMORANDUM

TO: 2023-2024 Senate Executive Committee
 FROM: Teri Hogg
 Chair, Undergraduate Curriculum Subcommittee
 DATE: April 16, 2024
 SUBJECT: Minor in Cyber Security

The Undergraduate Curriculum Subcommittee reviewed and supported the proposal from the College of Engineering, Technology and Computer Science (ETCS) for a new minor in Cyber Security. We find that the proposal requires no Senate review.

Thank you for the opportunity to review this new concentration.

Approved	Opposed	Absent	Non-Voting
Laurel Campbell Claudio Freitas, Teri Hogg Lee Roberts Xiaoguang Tian		Emily Tock Jordan Marshall	Terri Swim

Degree/Certificate/Major/Minor/Concentration Cover Sheet

Date:

Institution: Purdue

Campus: Fort Wayne

School or College:

Department:

Location: 80% or more online: Yes No

County:

Type:

Program name:

Graduate/Undergraduate:

Degree Code:

Brief Description:

Rationale for new or terminated program:

CIP Code:

Name of Person who Submitted Proposal:

Contact Information (phone or email):

PFW
Request for a New UG Minor

Proposed Title of Minor: Cyber security

College/School and Department Offering the Minor: ETCS/Polytechnic

Projected Date of Implementation: Spring 2025

I. Brief Description of Minor:

The interdisciplinary minor in Cyber Security would be available to all majors on campus with the exception of IT, IS, and CS majors who will pursue concentrations in cyber security (separate proposals to come for IS and CS). This 15-credit interdisciplinary minor is a mixture of both basic information technology and cyber security knowledge that can be taken by any non-technical major. (2 existing and 3 new courses). The minor will focus mainly on cyber security basics and policies that will complement any major.

II. Why is this minor needed?

This interdisciplinary minor will enable students from any degree program to obtain the necessary foundation in IT and in cyber security. The demand for cyber security professionals has been increasing steadily over the past few years. If we don't have people protecting our digital assets, we are at risk of our personal information being compromised. Currently there are not enough knowledgeable people to meet the demand. This is evidenced by a 32% projected growth in cyber security jobs in the US and 33% projected growth in Indiana (onetonline.org) for Information Security Analysts. This represents over 16,500 job openings between 2022-2032 in the US.

The knowledge and skills acquired in this certificate open professionals to higher salaries. The average salary for this occupation is \$77,470 in Fort Wayne, IN.

While no formal study has been conducted, students inquire about additional course options in cyber security on a weekly basis. This minor should be attractive to students in multiple programs at PFW who want to gain more information in cyber security. Protecting data/digital assets in hospitals, schools, and businesses is important given our current cyber environment.

Until now, we are unable to expand our course offerings due to a lack of faculty. With support from Dean Elfayoumy, we have hired a faculty member with deep knowledge in this area to begin addressing this need.

III. Prospective Curriculum:

ITC 11000 – IT Fundamentals	3 credits	
ITC 18000 – Intro to Computer Security	3 credits (new)	
ITC 32200 – Incident Response Mgmt.	3 credits (new)	P: ITC 11000
ITC 41400 – Information Assurance	3 credits	P: ITC 18000 or ITC 33100
ITC 41200 – IT Auditing	3 credits	P: ITC 18000 or ITC 33100

IV. Credits required – 15 credits

V. List all specific **program completion** requirements, including courses, minimum course GPA, minimum overall GPA, number of credits completed in residence, maximum time allowed from the completion of the first course, how many courses can be applied to another certificate or program of study, etc.

All courses in the minor must be passed with a grade of C- or better. At least 9 credits must be completed in residence. No time limit to complete. This interdisciplinary minor is not available to students with a major in IT, IS, or CS.

VI. Describe student population to be served and summarize the benefits to them, including focus and/or career relevance.

The interdisciplinary minor in cybersecurity provides non-technical majors with an opportunity to deepen their technology and cybersecurity policy knowledge to better protect the digital assets in their discipline/industry.

VII. How does this minor complement the institution, college, or departmental missions?

This minor will be available for non-technical majors to educate themselves in cybersecurity. Having this background will make our graduating students more competitive in the workforce.

VIII. Describe any relationship to existing programs within the university.

All but one of these courses are already used within the B.S. in IT, Certificate in Cybersecurity and/or the Concentration in Cybersecurity.

IX. List and indicate the resources required to implement the proposed minor. Indicate sources (e.g., reallocations or any new resources such as personnel, library holdings, equipment, etc.).

Nothing new will be needed from the library (see attached Liaison Library Memo). We will reallocate IT faculty resources to teach the cyber security courses but there is a net zero effect on the resources. Approved Technical Electives need to be taught each year in the B.S. in IT curriculum and we are shifting the focus of the Approved Technical Electives to cyber security.

X. Describe any innovative features of the program (e.g., involvement with local or regional agencies, or offices, cooperative efforts with other institutions, etc.).

By creating a certificate, concentration, and interdisciplinary minor, we will be working towards obtaining National Security Administration (NSA) Center for Academic Excellence in Cybersecurity (CAE-C) with a focus in Cyber Defense (CAE-CD). The CAE-CD designation is awarded to regionally accredited academic institutions offering cybersecurity degrees and/or certificates at the associate, bachelor's and graduate levels. As a marker of program quality, this designation provides evidence of eligibility for NSA grants for the benefit and ease of applying for grants and allows NSA to identify potential NCAE-C institutions for grant solicitations.

XI. Liaison Library Memo attached

Liaison Librarian Memo

Date:

From:

To:

Re:

Describe availability of library resources to support proposed new program:

Comments:

Sarah Wagner *3-4-2024*
Liaison Librarian Signature *Date*

Library Resources

Address the following issues regarding the impact of the new program on the library's budget and personnel. Please respond to each item below indicating the library sources and services required to support the proposed program.

- Which databases/indexing sources will be used by the courses in this program?
 - None
- What are the journals that will be used by students completing library research in this program? Please list three to five titles.
 - None will be needed
- Is there an expectation that access to new journals will need to be purchased for students in this program?
 - No
- Are there any specific reference sources (e.g. encyclopedias, handbooks, standards, etc.) required to support the new program?
 - No
- Is there an expectation for additional books to be purchased? What about DVD or audio/visual materials? What is the estimated dollar amount needed yearly to support this program with new books and media materials?
 - No
- Will the new program use the Library's Document Delivery Services? Costs for this service come out of the Library's budget. What types of materials would the program be requesting through DDS?
 - No
- Who is the liaison librarian for this program? The liaison librarian provides support through involvement in Blackboard-supported classes, one-on-one research consultations, in-class instructional sessions, and tailored course guides for research assignments. Which of these librarian services do you anticipate will be utilized in the new program?
 - Sarah Wagner
 - None
- Memo from Liaison Librarian regarding resources.
- Is there an accrediting body that will be overseeing this program? What are the statements of the accrediting body related to the library, e.g. holdings, personnel, services?
 - ABET/CAC

“The library services and the computing and information infrastructure must be adequate to support the scholarly and professional activities of the students and faculty”



Undergraduate Academic Program Memo

Date: 2/28/24

From: Michelle Parker

To: Dr. Sherif Elfayoumy, Dr. Carl Drummond

Re: Interdisciplinary Minor in CyberSecurity

Brief description of the program:




The interdisciplinary minor in Cyber Security would be available to all majors on campus with the exception of IT, IS and CS majors who will pursue the concentration in cyber security (separate proposals). This 15-credit interdisciplinary minor is a mixture of both basic information technology and cyber security knowledge that can be taken by any non-technical major. (2 existing and 3 new courses). The minor will focus mainly on cyber security basics and policies that will complement any major.

Brief rationale for program request:

The demand for cyber security professionals has been increasing steadily over the past few years. Jobs in the cyber security area are projected to grow by 32% in the State of Indiana. This interdisciplinary minor will enable students from any degree program to obtain the necessary foundation in IT and in cyber security.

CIP Code:

For completion by Office of Academic Affairs

<p><small>DocuSigned by:</small>  <small>4E345542E1EA497...</small> <i>Department Chair Signature</i></p>	<p>4/12/2024</p> <hr/> <p><i>Date</i></p>
<p><small>DocuSigned by:</small>  <small>5CC32880FFC14FA...</small> <i>School Dean Signature</i></p>	<p>4/15/2024</p> <hr/> <p><i>Date</i></p>
<p><small>DocuSigned by:</small>  <small>27109142004745C...</small> <i>Vice Chancellor for Academic Affairs Signature</i></p>	<p>4/11/2024</p> <hr/> <p><i>Date</i></p>

PLEASE NOTE: The Office of Academic Affairs will collect electronic signatures from the Chair, Dean, and Vice Chancellor for Academic Affairs after the form has been filled out and submitted to the Associate Vice Chancellor for Academic Programs with the rest of the program proposal.