

DATE: July 22, 2021

SUBJECT: New Academic Program
University of Tennessee, Martin
Cybersecurity, Bachelor of Science
CIP Code: 11.1003 (Computer and Information Systems Security)

ACTION RECOMMENDED: Approval

PROGRAM OVERVIEW

The University of Tennessee, Martin (UTM) proposes a Bachelor of Science (BS) in Cybersecurity which will require a minimum of 120 credit hours and will prepare students to become cybersecurity professionals. Currently, only 18 cybersecurity programs certified by the Accreditation Board of Engineering and Technology (ABET) exist in the United States and the proposed program will be the first accredited program at a public university in Tennessee.

The proposed program represents the second program to be considered for approval under THEC Academic Policy A.1.6 – *Expedited Academic Programs* and was developed in response to demonstrated labor market need for more cybersecurity professionals in Tennessee.

The proposed Bachelor of Science in Cybersecurity program was approved by the University of Tennessee Board of Trustees on June 25, 2021 and will be implemented in the fall of 2022.

CURRICULUM

The proposed program will require 120 credit hours including 44 credit hours of general education courses; 64 credit hours of core cybersecurity courses, 3 credit hours of the required capstone experience, and 9 credit hours of elective courses. The program will be delivered primarily on ground at UTM and does not require the development of any new coursework.

The proposed curriculum is designed to produce undergraduate cybersecurity graduates who demonstrate the ability to:

- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions;
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline;
- Communicate effectively in a variety of professional contexts;

- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles;
- Function effectively as a team member or leader engaged in activities appropriate to the program’s discipline; and
- Apply security principles and practices to maintain operations in the presence of risks and threats.

PROGRAM PRODUCTIVITY

The proposed Cybersecurity BS program projects an annual fall enrollment of 13 students in year one and increasing to 47 students in year five. The proposed program projects graduates beginning in year two and increasing to 10 graduates per year by year five. UTM conservatively based enrollment and graduation projections based on current enrollment trends in their existing information science programs.

	2022	2023	2024	2025	2026
Enrollment	13	25	34	43	47
Graduates	--	3	6	9	10

EXTERNAL JUDGEMENT

An external review of the proposed program was conducted during a virtual institution site visit on March 23, 2021 by Dr. James Walden, Professor and Director of Cybersecurity in the Department of Computer Science at Northern Kentucky University. The site visit included meetings with campus administrators, faculty, prospective students, and community partners.

Dr. Wright made a recommendation for approval of the proposed program and stated, “The proposed program is sufficiently extensive for a bachelor of science degree, as demonstrated by its alignment with ABET cybersecurity accreditation standards. Another strength is that the program will improve the existing computer science (CS) degree program by offering the option of a cybersecurity minor and by adding a requirement that CS students take a class in secure software development to graduate. Secure software development is a key skill for improving the security of our nation and is highly desired by many employers.”

COMMUNITY PARTNERS

Letters of support for the proposed program were provided DuHart Consulting, University Physician’s Association, Isotek Systems, LLC, Tri Star Energy, Brookdale Senior Living, and Sedna Consulting Group.

Program Costs

The proposed one-time and recurring expenditures for the cybersecurity program are listed in Table 1. The average annual total costs for the proposed program are \$19,000 per year. Additionally, UTM also plans to add two faculty positions to be added in years one and four. UTM has also hired departmental administrative staff to assist during the implementation of the proposed program. The proposed Cybersecurity BS program will be based in the College

of Engineering and Natural Sciences in the Department of Computer Science at the University of Tennessee, Martin.

Table 1

Costs to Deliver the Proposed Program: Recurring Expenditures

Estimated Costs to Deliver the Proposed Program						
One-Time Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Accreditation			2,000	12,000		
Consultants	1,000					
Equipment		10,000	5,000	5,000	5,000	
Information Technology						
Library						
Marketing						
Facilities						
Travel						
Other						
Total One-Time Expenditures	1,000	10,000	7,000	17,000	5,000	0
Recurring Expenditures						
Category	Planning	Year 1	Year 2	Year 3	Year 4	Year 5
Accreditation						
Consultants						
Equipment						
Information Technology						
Library		7,500	7,500	7,500	7,500	7,500
Marketing		500	500	500	500	500
Facilities						
Travel		2,500	2,500	2,500	2,500	2,500
Other		250	250	250	250	250
Total Recurring Expenditures		10,750	10,750	10,750	10,750	10,750
Grand Total (One-Time and Recurring)	1,000	20,750	17,750	27,750	15,750	10,750

ASSESSMENT AND POST-APPROVAL MONITORING

An annual performance review of the proposed program will be conducted for the first five years following program approval. The review will be based on benchmarks established in the approved proposal. At the end of this period, the campus, institutional governing board, and Commission staff will perform a summative evaluation. The benchmarks include, but are not limited to, enrollment and graduation, program cost, progress toward accreditation, and other metrics set by the institution and Commission staff. If benchmarks are not met during the monitoring period, the Commission may recommend that the institutional governing board terminate the program. If additional time is needed and requested by the institutional governing board, the Commission may choose to extend the monitoring period.