Bachelor of Applied Science in Cyber Defense

A Bachelor of Applied Science in Cyber Defense prepares students with the skills to defeat real-world cyber threats and cyberattacks. The curriculum encompasses both defensive and offensive cybersecurity techniques and concepts. Students will develop the knowledge and skills to work in security operations roles.

The program is designed to utilize the foundations of the current A.A.S in Cybersecurity and Data Privacy offered at TMCC. The program ensures that students take the required courses in 8 semesters.

The program has foundations in programming, networking, and cyber security. TMCC's cyber lab will feature current equipment and software to perform ethical hacking and penetration exercises.

Concurrent with the program, students will have the opportunity to prepare for several industry certifications, such as the Palo Alto PCCET & PCNSA, CompTia CySA+ and ComTia Pentest+.
CIP Code: 43.0401

PROGRAM RATIONALE

The Bachelor of Applied Science in Cyber Defense program is being developed in conjunction with TMCC's IMPACT: Indigenous Mutual Partnership to Advance Cybersecurity Technology initiative. Through that initiative, TMCC has secured funding and industry partnerships to further develop TMCC's cybersecurity education programs.

PROGRAM MISSION

The mission of the Bachelor of Applied Science in Cyber Defense degree is to prepare students with the skills and knowledge to become cybersecurity professionals with a curriculum that reflects the Seven Teachings of the Anishinaabe People.

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REQUIRED COURSES (1/3)

	GENERAL EDUCATION	
	ENGLISH & COMMUNICATIONS (9)	
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
COMM 110	Fundamentals of Public Speaking	3
	ARTS & HUMANITIES 9 (6 IN NATIVE LANGUAGE)	
LANG	Native Language	3
LANG	Native Language	3
HUMS	Humanities	3
	SOCIAL SCIENCE (6) - 3 OF NATIVE AMERICAN HISTORY	
SOCI	Social Science	3
SOCI	Native American History	3
	MATH & SCIENCE (6)	
MATH 103	College Algebra (Pre-Req for Computer Science II & Cryptography)	4
Science		2
	Total Credit Hours:	**30**

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REQUIRED COURSES (2/3)

CYBERSECURITY FOUNDATION		
CIS 141	Introduction to Cyber Security	3
CSCI 160	Computer Science I	3
CIS 161	Computer Science II	3
CIS 162	Operating Systems	3
CIS 165	Network Fundamentals II	3
CIS 168	Firewalls and Network Security	3
MATH 210	Elementary Statistics	3
CIS 223	Linux System Administration	3
CIS 241	Intro to Digital Forensics	3
CIS 245	Security Operations Fundamentals	3
CIS 255	Cloud Foundations	3
CIS 261	Cyber Law & Ethics	3
CIS 264	Ethical Hacking & Network Defense	3
CIS 267	Intermediate Networking I	3
CIS 270	Cybersecurity Infrastructure Configuration	3
CIS 271	Cybersecurity Prevention and Countermeasures	3
	Total Credit Hours:	**48**

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REQUIRED COURSES (3/3)

CYBER DEFENSE CORE		
CIS 320	Information Security Management	3
CIS 326	Database and Application Security	3
CIS 365	Defensive Network Security	3
CIS 366	Security Operations Analysis	3
CIS 387	Cryptography	3
CIS 390	Survey of Critical Infrastructure Security	3
CIS 410	Wireless and Mobile Security	3
CIS 418	Cloud Security Essentials	3
CIS 435	Network Security & Analysis	3
CIS 440	Threat Hunting and Incident Response	3
CIS 470	Penetration Testing	3
CIS 490	Capstone Project/Internship	3
	Total Credit Hours:	**36**
	Electives	**6**
		12
	Total Credits	**0**

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