

FRESHMAN		SOPHOMORE		JUNIOR		SENIOR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
BTGE 1725 3 The Bible and the Gospel [a]	CS 1220 3 Object-Oriented Design Using C++ [A] [D]	BTGE 2730 3 Old Testament Literature [a] [b]	BTGE 2740 3 New Testament Literature [b] [c]	BTGE 3755 3 Theology I [c] [d]	BTGE 3765 3 Theology II [d]	CY 4810 3 Secure Software Engineering I [H] [L] [N]	CY 4310 3 Cyber Operations [H]
CS 1210 3 Intro to Programming Using C++ [A]	CY 1000 3 Introduction to Cybersecurity [E]	CS 2210 3 Data Structures Using Java [D] [G]	COM 1100 3 Fundamentals of Speech	CS 3410 3 Algorithms [G] [K] [L]	CY 4330 3 Software Security [H] [M]	EGGN 4010 0 Senior Seminar	CY 4820 4 Secure Software Engineering II [N]
EGCP 1010 3 Digital Logic Design [B]	MATH 1715 4 Calculus II [C] [F]	CY 3420 3 Cyber Defense [D] [E] [H]	CS 3310 3 Operating Systems [D] [J]	CY 3320 3 Linux Systems Programming [G] [J] [M]	Electives 1	GBIO 1000 3.5 Principles of Biology	EGGN 3110 3 Professional Ethics
EGGN 1910 1 Engr, Comp, & Christian Vocation	PEF 1990 2 Physical Activity and Healthy Living	CY 2310 3 Cyber Forensics [E]	EGCP 3210 3 Computer Architecture [A] [B]	EGCP 2120 3 Micro-controllers [A] [B]	Inter-disciplinary Elective 3	HIST 3 History Elective	Electives 4
ENG 1400 3 Composition	PHYS 2110 4 General Physics I [F]	GSS 1100 3 Politics and American Culture	MATH 2520 3 Discrete Math & Probability Princip for CS [F] [K]	EGCP 4310 3 Computer Networks [G] [J]	Technical Elective 3	LIT 2XXX 3 Literature Elective	HUM 1400 3 Introduction to Humanities
MATH 1705 4 Calculus I [C]				Electives 1.5	Technical Elective 3	Social Science Elective 3	
17	16	15	15	16.5	16	15.5	17

Program accredited by:



Computing Accreditation Commission

GUIDE KEY	Left Side	Middle	Right Side	
	Required prerequisite ID	Required corequisite ID	This course prerequisite ID	ENGR & COMP SCI
	A is a prerequisite for A		Credit hours 3	MATH & SCIENCE
				GENERAL EDUCATION

TOTAL PROGRAM HOURS:

128

Program, track, and elective information on reverse side

Cyber Operations Program Information

WHAT IS CYBER OPERATIONS?

Cyber operations focuses on securing and operating in contested digital environments, including defending systems and networks and conducting authorized mission-oriented activities such as collection, exploitation, and response. As a broad field, it includes activities ranging from threat detection and incident response to vulnerability assessment, secure configuration, and security testing of software and infrastructure. Cyber operations emphasizes technical fundamentals, disciplined procedures, and extensive hands-on lab work that simulates real attack-and-defend conditions.

WHAT KINDS OF JOBS CAN I GET WITH A CYBER OPERATIONS DEGREE?

Cyber operations graduates are prepared for roles in the cybersecurity workforce, including working in Top Secret facilities for the US government to help secure our nation, and in roles like network security engineer, penetration tester, security analyst, and software developer in both the private and public sectors. Cedarville's program's hands-on lab work, internships, and cyber competitions (including collegiate defense and skills-based leagues) provide practice that maps to common employer expectations in security operations, incident response, and defensive and offensive testing.

WHY CHOOSE CEDARVILLE?

The School of Engineering and Computer Science education at Cedarville is based on three pillars, aimed at helping students:

1. *Discover their purpose*
2. *Know their people*
3. *Prepare to change their world*

Addressing these topics from a biblical perspective is critical for developing not only an understanding of their pursuit of their career, but also their life-long roles as followers of Jesus Christ!

Cyber Operations Program Track

Students in the cyber operations program at Cedarville University have the option of fulfilling their 6 hours of Technical Electives (along with 3 additional elective hours) by completing the Artificial Intelligence Track:

ARTIFICIAL INTELLIGENCE TRACK

- » DSAI-2110 Data Management for AI (3 hrs)
- » DSAI-3110 Foundations of Data Science & Machine Learning (3)
- » DSAI-3510 Neural Networks and Deep Learning (3)

9 hours total

Cyber Operations Program Electives

INTERDISCIPLINARY ELECTIVES

- » CRJU-4160 International & Domestic Terrorism (3 hrs)
- » CRJU-4170 National Security Law (3)
- » CRJU-4320 Criminal Investigation (3)
- » HIST-3080 History & Politics of Russia & Eastern Europe (3)
- » HIST-3220 History & Politics of the Middle East (3)
- » HIST-4500 Seminar: Warfare Ancient & Modern (3)
- » ITM-3450 Information Security Governance (3)
- » PUAD-3690 Public Policy (3)

TECHNICAL ELECTIVES

- » CS-3220 Web Applications (3 hrs)
- » CS-3510 Compiler Theory & Practice (3)
- » CS-3610 Database Organization & Design (3)
- » EGCP-3010 Advanced Digital Logic Design (3)
- » EGCP-4210 Advanced Computer Architecture (3)

Cyber Operations Critical Path

The below sequence of courses is most critical for students' timely completion of the program due to prerequisites.

