CYBERSECURITY - ASSOCIATE IN SCIENCE

CYBR

Available on all four campuses; daytime, evening, or online.

The Cybersecurity program is designed to provide students with a strong foundation in the principles and methods of cybersecurity, as well as the fundamental knowledge and tools for applying security measures across a variety of network architectures and settings. In addition to serving as a strong foundation for pursuing a bachelor's degree in cybersecurity, this associate degree program will provide the educational background and hands-on training necessary to prepare students for entry into the cybersecurity sector. The curriculum includes a combination of general education, computer science, and network technology courses to provide students with the knowledge, skills, and training necessary for a successful transition into a career in security, and to meet National Security Agency (NSA) and Centers of Academic Excellence (CAE) core foundational content and standards.

Note: Students must earn a grade of at least C in all computer course requirements and must maintain a 2.0 GPA. Many courses require prerequisites, corequisites and/or testing. See course descriptions for details (https://catalog.ccri.edu/course-descriptions/).

Program Learning Outcomes

Upon completion of this program, a student will be able to:

1. Demonstrate critical thinking and problem-solving skills.
2. Explain basic objectives of cybersecurity and the importance of information security as well as the current threats to networks.
3. Design, build, and maintain scalable and secured networks using routers, switches, firewalls, network intrusion detection systems, and vulnerability assessment tools.
4. Demonstrate proficiency in the use of scripting languages to develop solution algorithms and automate system administration tasks.
5. Apply various cryptography concepts including plain-test, cipher-text, symmetric and asymmetric cryptography as well as the techniques for crypto-analysis.
6. Assess cybersecurity risk management policies in order to adequately protect an organization's critical information and assets.
7. Apply theoretical knowledge, problem-solving skills, and ethical principles to address case studies and practical applications in networking and cybersecurity.
8. Demonstrate an understanding of the role and functions of cybersecurity professionals in organizations.

Requirements

Code	Title	Hours
General Education Requirements		
ENGL 1010	Composition I (or ENGL 1010A) HUMN; Written Communication; Information Literacy	3
	Humanities Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/) [1]	3
	Humanities Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/) [1]	3
MATH 1139	Mathematics for Liberal Arts Students (or MATH 1139C) MSCI; Scientific Reasoning; Quantitative Literacy	3
	Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/) SSCI	3
	Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/) SSCI	3
Choose ONE of the following:		3-4
	Mathematics Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/)	
	Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/)	
Subtotal		21-22
Major Requirements		
CNVT 1810	Networking 1	3
CNVT 1820	Networking 2	3
CNVT 1830	Networking 3	3
CNVT 2200	Network Security Hardware	4
COMI 1170	Scripting for System Administration	3
COMI 1800	Computer Networking Software Linux	3
COMI 2035	Introduction to Computer Forensics	3
COMI 2036	Introduction to Computer Ethics	3
COMI 2037	Foundations of Cybersecurity	3
COMI 2038	Ethical Hacking	3
COMP 1200	Database Design & Management	3
COMP 2500	Cybersecurity Practicum/Capstone Course^ [2]	3
CYBR 1100	Defending External Threats	3
Subtotal		40
Total Hours		**61-62**

[1] Take Ethics (PHIL 2030) if transferring to Johnson & Wales University Cyber Threat, Intelligence & Defense B.S. Degree.

[2] Cybersecurity Practicum/Capstone Course^ (COMP 2500) requires instructor permission and is recommended in your final semester.

^ Work-based learning course

Recommended Course Sequence

Course	Title	Hours
Year 1		
Semester 1		
CNVT 1810	Networking 1	3
COMI 1800	Computer Networking Software Linux	3
ENGL 1010	Composition I (ENGL 1010A)	3
MATH 1139	Mathematics for Liberal Arts Students (MATH 1139C)	3
Choose ONE of the following: [1]		3
	Humanities Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/)	
	Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/)	
	Hours	**15**

Semester 2

CNVT 1820	Networking 2	3
COMI 1170	Scripting for System Administration	3
COMI 2035	Introduction to Computer Forensics	3
COMP 1200	Database Design & Management	3
Choose ONE of the following: [1]		3
	Humanities Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/)	
	Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/)	
	Hours	**15**

Year 2

Semester 1

CNVT 1830	Networking 3	3
COMI 2036	Introduction to Computer Ethics	3
COMI 2037	Foundations of Cybersecurity	3
Choose ONE of the following: [1]		3
	Humanities Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/)	
	Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/)	
Choose ONE of the following:		3-4
	Mathematics Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/)	
	Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/)	
	Hours	**15-16**

Semester 2

CNVT 2200	Network Security Hardware	4
COMI 2038	Ethical Hacking	3
COMP 2500	Cybersecurity Practicum/Capstone Course^	3
CYBR 1100	Defending External Threats	3
Choose ONE of the following: [1]		3
	Humanities Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/)	
	Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/)	
	Hours	**16**
	Total Hours	**61-62**

[1] Only 6-credits in Humanities Elective are required and 6-credits in Social Science Electives are required. If transferring to Johnson & Wales University, one of your Humanities Electives must be Ethics (PHIL 2030).

^ Work-based learning course

Transfer

Please meet with an Academic Advisor/Student Success Coach (https://ccri.edu/advising/) if you are interested in earning a bachelor's degree.

Your Academic Advisor will help you select the courses that best prepare you for transfer to a four-year college or university.

Check out the Joint Admissions Agreement (https://ccri.edu/jaa/) if you are interested in transferring to Rhode Island College or the University of Rhode Island. The JAA program offers seamless transfer to RIC or URI with additional benefits. Transfer information, events, and articulations are available on the Transfer Center website (https://ccri.edu/oes/transfer_center/).