

Cybersecurity

Associate in Applied Science Degree in Information Technology

Program **CYBERSECURITY.AAS**
CIP 111003



The Cybersecurity associate degree prepares students for jobs protecting computer systems and networks against cyber threats such as viruses, spyware, and intrusion by hackers. These professionals design, install, and manage network control tools and other security mechanisms that protect computer systems from unauthorized access or data loss. Part prevention and part critical response, Cybersecurity supports careers such as network security specialist, security administrator, and network security support engineer.

PROGRAM OUTCOMES

- Describe the elements of information security, including possible threats and attack vectors as well as the motives, goals, and objectives of information security attacks;
- Explain what steps can be taken to secure a system, and provide secure network management and reporting;
- Secure routers and switches and their associated networks, including installing, troubleshooting, and monitoring network devices to maintain integrity, confidentiality, and availability of data and devices;
- Prevent common security threats, including implementing firewall and VPN technologies and perimeter defenses, conducting vulnerability and penetration testing, and scanning networked systems;
- Describe the security weaknesses inherent in wireless networks, and implement solutions to address them;
- Use printed and online technical documentation, and demonstrate written and oral communication skills;
- Work effectively individually and in workgroups to install and implement information security technology;
- Pass industry certifications, including CompTIA's Security+; EC-Council's CEH (Certified Ethical Hacker); and Cisco's CCENT, CCNA, and CCNA: Security.

Admission to the program requires a high school diploma or its equivalent, one year of high school algebra, and computer literacy. Applicants must demonstrate competency in English composition, reading, and mathematics, as determined by placement testing. Students who are required to complete foundations courses must plan their curriculum with an academic advisor.

The A.A.S. in Cybersecurity was not developed as a transfer curriculum; however, students have successfully transferred to, and completed bachelor's degrees at, several technically-oriented institutions including NJIT, Fairleigh Dickinson University, DeVry University, Drexel University, and Pierce College.

NOTE: All program listings are subject to periodic updates. Please consult your program advisor, academic division, or www.mccc.edu/programs_degree

Curriculum

Code	Course (lecture/lab hours)	Credits
FIRST SEMESTER		
ENG 101	English Composition I (3/0)	3
NET 102	Introduction to PC Hardware and Software (2/3)	3
NET 104	Fundamentals of Computer Networks (2/2)	3
NET 120	Windows Desktop OS Administration (2/2)	3
IST —	Computer Concepts requirement (2/2) ¹	3
SECOND SEMESTER		
CSW 100	College Success and Personal Wellness (2/0)†	2
ENG 102	English Composition II (3/0)	3
MAT 125	Elementary Statistics I (3/0) ²	3
NET 103	IT Essentials (2/3)	3
NET 122	Windows Server OS Administration (2/2)	3
NET 130	Routing and Switching Essentials (2/2)	3
THIRD SEMESTER		
ECO 111	Macroeconomics (3/0) ³	3
NET 212	Introduction to Linux (2/2)	3
NET 230	Scaling Networks (2/2)	3
NET 239	Connecting Networks (2/2)	3
NET 240	Network Security (2/2)	3
FOURTH SEMESTER		
BUS 230	Global Environment of Business (3/0) ⁴	3
NET 244	Network Defense and Countermeasures (2/2)	3
NET 245	Ethical Hacking (2/2)	3
NET 246	Wireless Security (2/2)	3
NET 298	Information Security Capstone (0/2)	2
PHI 204	Ethics (3/0) ⁵	3
		64

¹ Select from IST 101, 102, or in consultation with an academic advisor.

² Students intending to transfer should substitute a higher-level mathematics course. Select in consultation with an academic advisor.

³ May be substituted with another Social Science general education elective.

⁴ May be substituted with another Diversity and Global Perspective general education elective.

⁵ May be substituted with another Humanities or Social Science general education elective.

† Some exemptions apply. Consult academic advisor for details.