



**2024-2025 Academic Year**

# Information Technology

## Cybersecurity concentration

### Associate in Applied Science Degree (A.A.S.)

**Business, Technology, and  
Professional Studies Division**

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The **Cybersecurity concentration in Information Technology** 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 ISC2 Certified in Cybersecurity Entry-Level Certification; 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 Cybersecurity concentration in Information Technology A.A.S. 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 Peirce College.

**SEE ALSO:**

- [Computer Information Systems](#) degree program
- [Information Technology](#) degree program
- [Network Engineering Technology](#) certificate program

## DEGREE CURRICULUM

### 2024-2025 Academic Year

INFO.TECH.CYBER.AAS  
CIP 110201

The course sequence below represents a recommended example of how this degree program can be completed in two years, presuming a Fall Term start and satisfaction of all Developmental Studies (foundation courses) requirements and prerequisites. Actual approaches toward completion depend on each student's anticipated transfer institution, career objectives, or other individual circumstances.

Students are encouraged to meet regularly with an academic advisor or Success Coach to consider options, establish plans, and monitor progress.

Code	Course (lecture/lab hours)	Credits	To Do This Semester
<b>FIRST SEMESTER</b>			
<a href="#">ENG 101</a>	English Composition I (3/0)	3	✓ Meet with your faculty advisor to complete an academic plan. Make sure you are aware of any course prerequisites you may need to take, and how long it will take to complete your degree.  ✓ Use your online tools: Check your <a href="#">MercerMail</a> daily, utilize features of Office 365, and get to know <a href="#">Student Planning</a> .
<a href="#">NET 102</a>	Introduction to PC Hardware and Software (2/3)	3	
<a href="#">NET 104</a>	Fundamentals of Computer Networks (2/2)	3	
<a href="#">NET 120</a>	Windows Desktop OS Administration (2/2)	3	
<a href="#">IST 105</a>	Information Security Concepts and Principles (2/2)	3	

✓ Take advantage of [Learning Centers](#) or [Online Tutoring](#) to support your studies and assignments.

## SECOND SEMESTER

<a href="#">ENG 102</a>	English Composition II (3/0)	3	✓ Transitioning to college can be challenging. Meet with your <a href="#">Success Coach</a> for guidance and support.
<a href="#">MAT 115</a>	Algebra and Trigonometry I (3/0) <ul style="list-style-type: none"><li>• Students intending to transfer should substitute a higher-level mathematics course. Select in consultation with an academic advisor.</li></ul>	3	✓ Apply for <a href="#">financial aid</a> by May 1.
<a href="#">NET 103</a>	IT Essentials (2/3)	3	✓ Contact professors with questions and use their office hours to develop a connection. Talk with them to get the inside scoop on how your profession works.
<a href="#">NET 122</a>	Windows Server OS Administration (2/2)	3	✓ Be sure to visit the <a href="#">Career Services</a> office to explore jobs, internships, and career information and get help with your resume and other career tools.
<a href="#">NET 130</a>	Routing and Switching Essentials (2/2)	3	✓ Apply for Continuing Student scholarships at <a href="http://www.mccc.edu/m-scholarships">www.mccc.edu/m-scholarships</a> .

## THIRD SEMESTER

<a href="#">CMN 111</a>	Speech: Human Communication (3/0)	3	✓ Keep in contact with each professor and your faculty advisor. Make sure you are on track to graduate on time.
<a href="#">CMN 112</a>	<b>OR</b> Public Speaking (3/0)	3	
<a href="#">NET 212</a>	Introduction to Linux (2/2)	3	
<a href="#">NET 230</a>	Scaling Networks (2/2)	3	
<a href="#">NET 240</a>	Network Security (2/2)	3	

<a href="#">NET 241</a>	Cyber Security Analytics (2/2)	3	<ul style="list-style-type: none"> <li>✓ Work with <a href="#">Career Services</a> to formulate plans for after you've earned this degree.</li> <li>✓ Develop team and leadership skills by getting involved in <a href="#">activities and clubs</a>.</li> <li>✓ Apply for Continuing Student scholarships at <a href="http://www.mccc.edu/m-scholarships">www.mccc.edu/m-scholarships</a>.</li> <li>✓ Manage your stress! Take advantage of the MCCC pool, <a href="#">Fitness Center</a>, free yoga and Zumba. Reach out for <a href="#">counseling</a> or other support if you need it. Your <a href="#">Success Coach</a> can connect you with resources.</li> </ul>
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**FOURTH SEMESTER**

<a href="#">BUS 230</a>	Global Environment of Business (3/0)	3	✓ Get ready to start your career! Begin the job application process.
<a href="#">IST 110</a>	Introduction to Python (2/2)	3	
<a href="#">NET 244</a>	Network Defense and Countermeasures (2/2)	3	✓ Discuss your career plans with your faculty advisor. S/he can help you transition successfully.
<a href="#">NET 245</a>	Ethical Hacking (2/2)	3	
<a href="#">PHI 204</a>	Ethics (3/0)	3	

**NOTE:** One or more NET courses may be substituted with an acceptable IST or COS course, in consultation with an academic advisor.