CYBERSECURITY
ASSOCIATE OF APPLIED SCIENCE (AAS) – 60 CREDITS

About this program

This program provides the skills to support and maintain information technology (IT) systems. These skills include overall computer knowledge, networking, application software and IT security. Students will gain hands-on experience working with routing and switching, server virtualization and private cloud computing environments. Students will explore the concepts of risk, threats, vulnerabilities, attack vectors and exploits while analyzing known security incidents. Students will write policies and apply policies and recommended security framework controls and countermeasures to decrease risk. Courses in this degree program prepare students for the CompTIA Security + and Cisco Certified Entry Network Technician (CCENT) certifications.

Program outcomes

1. Use mechanisms available in an operating system to control access to resources.
2. Configure infrastructure server roles.
3. Investigate various countermeasures and security controls to minimize risk and exposure.
4. Support the ethical responsibility of ensuring software correctness, reliability and safety.
5. Illustrate, through examples, the concepts of risks, threats, vulnerabilities, attack vectors and exploits, noting there is no such thing as a perfect security.
6. Analyze known security incidents, including social engineering and physical security incidents, to trace and document the steps in the incidents.
7. Develop technical artifacts.
8. Examine ethical issues related to cybersecurity.
9. Write a companywide security policy.
10. Communicate effectively and efficiently with clients, users and peers.
11. Design and build virtual computing environments.
12. Use a variety of ciphers to encrypt plaintext into ciphertext.
13. Construct input validation and data sanitization in applications, considering adversarial control of the input channel.

Curriculum overview

Crds	Requirement type
	Total

Developmental courses note: A student may be required to enroll in developmental courses in reading, writing and math. A student's scores on the Accuplacer assessment will determine enrollment in developmental courses. The purpose of developmental courses is to prepare students for the demands of a college-level curriculum. *Credits may vary.*

Accreditation: Minnesota State Community and Technical College is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education. The Higher Learning Commission 230 South LaSalle Street, Suite 7-500 Chicago, IL 60604-1411 http://www.ncahigherlearningcommission.org Phone: 312.263.0456 / 800.621.7440

Curriculum requirement details

Required courses

Other requirements or restricted electives

Course summaries

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Program Plan — ""
Locations: