

Program Description

The CLC Computer IT Security and Networking A.A.S. degree is designed to train students with the skills and character needed to be successful IT professionals in today’s job market. The program includes a variety of IT concepts and methods used today in emerging technologies and security. With switches, routers, firewalls, endpoints, servers, and networking equipment, students will learn skills needed to be successful in the design, implementation, troubleshooting, communication, and management of IT networking architecture and security in a professional business environment. The curriculum will engage student learning as well as build character and confidence with team building, communication skills, and training in end-user support and customer service. CLC computer technology instructors are industry-certified professionals with years of experience in the classroom and industry.

Program Outcomes

By completing this program, students will achieve the following learning outcomes:

- Describe the concepts of computer hardware and system components;
- Design, configure, and implement various networking architectures utilizing best practices, and security methods;
- Design, configure, harden, and implement endpoint and server operating systems;
- Effectively establish secure networking connections between endpoints, applications, services, and local/cloud-based server systems;
- Understand, design, and collaborate on current IT standards and policies in relation to acceptable use, data classification, incident handling, disaster recovery, business continuity, and security awareness;
- Demonstrate a thorough understanding of emerging technology, hardware, concepts, and methodology;
- Locate, evaluate, and properly utilize tools and resources appropriate to a computer technology professional;
- Apply appropriate security standards to identify, evaluate, and mitigate risk; and
- Communicate effectively with technical and non-technical audiences.

Program Course Requirements

Required Technical Courses (45 credits)

COMP 1120	Introduction to Computer Apps	3 cr
COMP 1125	A+	5 cr
COMP 1126*	Network+	4 cr
COMP 1127*	Security+	4 cr
COMP 1128	IT Documentation and Support	3 cr
COMP 1129	IT Careers	2 cr
COMP 2161*	Command-Line and Scripting	4 cr
COMP 2162*	Server Administration and Management	4 cr
COMP 2163*	Network Security and Analysis	4 cr
COMP 2164*	Cloud Architecture, Deployment and Security	4 cr
COMP 2165*	Project Management	4 cr
COMP 2166*	Network Defense Capstone	4 cr

An A.A.S. degree requires a minimum of 15 credits selected from at least three of the ten goal areas of the Minnesota Transfer Curriculum (MnTC). Students must include the following courses:

ENGL 1410	Composition I (Goal 1) OR	
ENGL 1420*	Honors Composition I (Goal 1) OR	4 cr
ENGL 1422	Practical Writing (Goals 1,2)	3 cr
PHIL 1460	Logic (Goals 2,4)	3 cr
Additional Minnesota Transfer Curriculum		8-9 cr

GRADUATION REQUIREMENT - 60 CREDITS

**Denotes Prerequisites*

Course Prerequisites

Some courses may require appropriate test scores or completion of basic math, basic English and/or reading courses with a “C” or better. CLC utilizes a multiple measure approach for placement which may include high school MCA, SAT, ACT scores in addition to high school GPAs. For insurance purposes, internships may require that students be 18 years old.

Semester Course Requirements

Semester One (14 credits)

COMP 1120	Intro to Computer Apps.....	3 cr
COMP 1125	A+.....	5 cr
COMP 1128	IT Documentation and Support	3 cr
PHIL 1460	Logic (Goals 2,4).....	3 cr

Semester Two (16-17 credits)

COMP 1126*	Network+	4 cr
COMP 1127*	Security+	4 cr
COMP 1129	IT Careers.....	2 cr
ENGL 1410	Composition I (Goal 1) OR	
ENGL 1420*	Honors Composition I (Goal 1) OR	4 cr
ENGL 1422	Practical Writing (Goals 1,2)	3 cr
Minnesota Transfer Curriculum	3 cr

Semester Three (15 credits)

COMP 2161*	Command-Line and Scripting.....	4 cr
COMP 2162*	Server Administration and Management .	4 cr
COMP 2163*	Network Security and Analysis	4 cr
Minnesota Transfer Curriculum	3 cr

Semester Four (15 credits)

COMP 2164*	Cloud Architecture, Deployment and Security	4 cr
COMP 2165*	Project Management	4 cr
COMP 2166*	Network Defense Capstone	4 cr
Minnesota Transfer Curriculum	3 cr

Certification

This program will prepare students for the following certifications from CompTIA: A+, Network+ and Security+, Linux+, Server+, Cloud+, CySA+, and Project+. Students are encouraged to pursue certifications; however, they are not required for program completion and require additional costs per exam. Certification educational discounts are available to CLC Students through CompTIA and Microsoft.

Career Opportunities

IT professionals work together to design and improve existing networking and security communication between systems and support end-user technologies to increase productivity in any business environment. They lead the way through the planning and development of new systems using knowledge of hardware, software, and best networking and security practices. IT professionals are not “one size fits all,” especially when it comes to business. Different companies have different needs. IT professionals use skills from multiple areas to plan, design, implement, secure, or troubleshoot endpoint communication, cloud-based or server-based systems on a networking level. This program will prepare students for a wide range of careers in the IT field.

Graduation Requirements

In addition to the program requirements, students must meet the following conditions in order to graduate:

1. College Cumulative GPA Requirement: cumulative grade point average (GPA) of credits attempted and completed at CLC must be at least 2.0;
2. College Technical Core GPA Requirement: cumulative GPA of credits attempted and completed towards the technical core of the diploma or degree must be at least 2.0;
3. Residency Requirement: students must complete 25% of their credits at Central Lakes College.