Network Administration and Cybersecurity AAS Degree - 72 credits

Program Area: Computer Information Systems (Fall 2020)

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Program Description

This program is offered on-campus or online. Students are prepared for CompTIA (A+, Network+, Security+), Microsoft MCP, Cisco CCENT, and EC-Council Certified Ethical Hacker (CEH) certifications. A 30-credit certificate, a 58-credit diploma, and a 72-credit Associate in Applied Science degree program give students the flexibility they need. Students are prepared to provide technical support for computer networks in business environments. Students are taught server and network administration, hardware support skills, and security essentials.

Program Outcomes

- Perform PC configuration and maintenance tasks, including hardware and OS installation and troubleshooting, and configuration for network services
- Describe the OSI Reference Model, layered communications principles, and routing, bridging and switching principles and devices, and use these concepts effectively in verbal and written communication
- Manage Cisco router hardware and the Cisco Internet Operating System (IOS), including planning, installation, configuration, management, upgrading and troubleshooting of routers and switches
- Analyze organizational networking needs, and design and implement Local Area and Wide Area Networks (LANs and WANs), including hardware and software configuration and management, and security (access control)
- Design and implement basic network services such as DHCP, DNS, network shares and printing, remote access, user accounts and groups, and manage desktop and network security
- Determine the factors involved in developing a secure information technology strategy
- Describe and identify common security threats and attacks and describe how to safeguard against them
- Apply a common ethical hacking methodology to carry out a penetration test and describe how to implement countermeasures for these types of attacks

Required Courses

Number	Name	Credits	Term
CIS 1402	Foundations of CIS	3	
CIS 1521	A+ Operating Systems Technologies	3	
CIS 1522	A+ Core Hardware	3	
CIS 1946	CISCO Networking I	3	
CIS 1950	Network Client Administration	3	
CIS 1500*	Computer User Support	3	
CIS 1745	UNIX System Administration	3	
CIS 1810*	Security Fundamentals	3	
CIS 1947*	CISCO Networking II	3	
CIS 1952*	Windows Server Administration	3	
CIS 2811*	Intrusion Detection and Prevention Systems Fundamentals	3	
CIS 2812*	Network Security	3	
CIS 2813*	Forensics and Incident Response	3	
CIS 2814*	Ethical Hacking and Systems Defense	3	
CIS 2972*	SQL Server Administration	3	
CIS 2980*	Intership	2	
CIS 2987*	CIS Capstone	3	
Technical Electives	*Choose 7 credits from the following:*	7	
CIS 1415	Introduction to Programming		
CIS 2560*	Web Server Administration		
CIS 2973*	Server Virtualization		
CIS 2976*	Emerging Technologies in Information Systems		
CIS 2999*	Special Topics in Computer Science (1-3 credits)		
General Education Electives	Select from at least 3 different goal areas of the Minnesota Transfer Curriculum	15	

Total Credits   **72**

*Requires a prerequisite or a concurrent course

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Program Articulations

This program has articulation agreements in place that allow the student to transfer credits earned in the LSC Network Administration and Security AAS degree, should the graduate decide to pursue a bachelor's degree in Project Management or Operations Management. Current articulations include:

- Minnesota State University Moorhead, BS in Operations Management
- Minnesota State University Moorhead, BS in Project Management

Pre-program Requirements

Successful entry into this program requires a specific level of skill in the areas of English/reading and mathematics.

English/Reading:
- A score of 250 or higher on the reading portion of the Accuplacer, or
- Completion of ENGL/READ 0950 or 0955 (or equivalent course or higher). ENGL/READ 0955 may be taken concurrently with Semester I coursework.

Mathematics:
- A score of 270 or higher on the Arithmetic portion of the Accuplacer, or
- A score of 236 or higher on the QAS portion **and** a score of 236 or higher on the Arithmetic portion of the Accuplacer, or
- Completion of MATH 0460 (or equivalent course or higher). MATH 0460 may be taken concurrently with Semester I coursework.

*For interpretation of test results and selection of appropriate coursework; or general information
about the program, admissions, financial aid, and getting started at LSC,
contact the professional advising team (pat@lsc.edu) at 218-733-7601*

For more information about the Network Administration and Security AAS including
course descriptions, course prerequisites, and potential career opportunities,
see the program website (https://degrees.lsc.edu/network-administrator/)
or

Contact Faculty Advisors, Tom Gustafson (thomas.gustafson@lsc.edu) at 218-733-7773 or
Valarie McLain (valarie.mclain@lsc.edu) at 218-733-7763