



## Network Administration and Cybersecurity AAS Degree - 72 credits

Program Area: Computer Information Systems (Fall 2017)

**\*\*\*REMEMBER TO REGISTER EARLY\*\*\***

### 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 Administration: Windows Client	3	
CIS 1500*	Computer User Support	3	
CIS 1745	Network Administration: UNIX	3	
CIS 1810*	Network Administration: Security	3	
CIS 1947*	CISCO Networking II	3	
CIS 1952*	Network Administration: Windows Server	3	
CIS 2811*	Intrusion Detection and Prevention Systems Fundamentals	3	
CIS 2812*	Network Security Fundamentals	3	
CIS 2813*	Network Forensics and Incident Response	3	
CIS 2814*	Ethical Hacking and Systems Defense	3	
CIS 2972*	Network Administration: SQL Server	3	
CIS 2976*	Emerging Technologies in Information Systems	1	
CIS 2980*	Internship	2	
CIS 2987*	CIS Capstone	3	
<i>Technical Electives</i>	<i>Choose 6 credits from the following:</i>		
CIS 2560*	Web Server Administration	6	
CIS 2973*	Network Administration: Server Virtualization		
CIS 2974*	Network Administration: Exchange Server		
CIS 2999*	Special Topics in Computer Science (1-3 credits)		
<i>General Education Electives</i>	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:  
<http://www.mntransfer.org/download.php?id=4885>
- Minnesota State University Moorhead, BS in Project Management:  
<http://www.mntransfer.org/download.php?id=5339>

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### 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 78 or higher on the reading comprehension 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 71 or higher on the **Elementary Algebra Skills** 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 at [pat@lsc.edu](mailto:pat@lsc.edu) or 218-733-7601*

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For more information about the Network Administration and Security AAS including course descriptions, course prerequisites, the gainful employment disclosure, and potential career opportunities, see

<https://degrees.lsc.edu/network-administrator/>

-or-

Contact Faculty Advisors, Tom Gustafson: [t.gustafson@lsc.edu](mailto:t.gustafson@lsc.edu) or 218-733-7773;

Valarie McLain: [v.mclain@lsc.edu](mailto:v.mclain@lsc.edu) or 218-733-7763



MINNESOTA STATE

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