

**Cisco Networking Technician**
**Certificate | 17 credits**

Campus: Hibbing

<b>FALL SEMESTER 2024 – 6 Credits Minimum</b>		<b>CREDITS</b>	<b>HOURS LEC/LAB</b>
CNT 1010	Network Fundamentals	3	2/2
CNT 1020 *	Router Theory and Technology	3	2/2
<b>SPRING SEMESTER 2025 – 6 Credits Minimum</b>			
CNT 1030 *	Advanced Routing and Switching	3	2/2
CNT 1040 *	Advanced Networking and Management	3	2/2
<b>ELECTIVES – 5 Credits Required. Can be taken fall or spring semester.</b>			
CNT 1100	CISCO Certificate Preparation	1	0/2
CNT 2010 *	Information Assurance	3	2/2
CNT 2070 *	Digital Forensics	3	2/2
ITNS 2010	Linux Install and Administration	3	1/4
ITNS 2020	Linux Networking and Security	3	1/4
ITNS 2145	Microsoft MTA Server	4	2/4
ITNS 2560	Wireless Networking Technologies	3	2/2
ITNS 2580	IT Project Management	3	2/2

**PROGRAM DESCRIPTION**

The Cisco Networking Technician program provides comprehensive, project-based training in computer network design, set-up, maintenance, troubleshooting, and administration. Students participate in hands-on projects which provide experimental learning while preparing for the CCNA certification exam. This exam, given at the completion of one year, determines if the student is fully qualified to work as a Cisco Certified Networking Associate. Throughout the year, students are learning about network operations and management.

**PROGRAM LEARNING OUTCOMES**

Upon completion of the Cisco Networking program, the graduate will be able to:

1. Work collectively and collaboratively, exhibiting skills in leadership and the use of clear and concise communication.
2. Design and implement Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6), addressing schemes and services to meet public and private network requirements.
3. Demonstrate configuration, verification, and troubleshooting of advanced switching, implementing VLANs, trunking, SVIs, Spanning Tree and switch security.
4. Describe the purpose and basic operation of the protocols in the Open Systems Interconnection (OSI) and Transmission Control Protocol (TCP) models and their associated protocols.
5. Demonstrate configuration, verification, and troubleshooting of advanced routing, implementing static and dynamic routing protocols, secure remote access, management of Internetwork Operating System (IOS) files and licensing, and router security.
6. Implement, secure, and verify Wide Area Network (WAN) links using industry standard protocols and virtual private network (VPN) operations.
7. Analyze and implement proper strategies and methods to troubleshoot data network operations using monitoring tools and network management protocols.

**PROGRAM NOTES**

- \* Course has prerequisite requirement.

**EMPLOYMENT OPPORTUNITIES**

Upon completion of this program, students will be trained and ready for a career in a field experiencing critical shortages and high-income potential. Entry-level Network Administrators with less than 1-year of experience can expect to earn an average compensation of \$49,436 (payscale.com) and faster than average growth. The Minnesota Department of Employment states a median wage of \$32.36 per hour for computer network support specialists for the first quarter of 2021.

# Minnesota North College

## 2024-25 PROGRAM PLANNER

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### PROGRAM FACULTY

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