



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: CSN-2241 Enterprise Networking

Effective Date: Spring 2026

Submitted Date: Aug-24

Credit Hours: 3

IAI Number (if applicable): N/A

Complete all that apply or mark "None" where appropriate:

Prerequisite(s): CSN-1242

Enrollment by assessment or other measure? Yes No
If yes, please describe:

Corequisite(s): None

Pre- or Co-requisite(s): None

Consent of Instructor: Yes No

Delivery Method:

<input checked="" type="checkbox"/> Lecture	2 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input checked="" type="checkbox"/> Lab	3 Contact Hours (2-3 contact = 1 credit hour)
<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)

Offered: Fall Spring Summer

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

The last of three courses in the Cisco Certified Networking Associates, (CCNA), curriculum designed to prepare students to pass the CCNA Certification Exam. The course focuses on wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access along with the introduction of software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students gain skills to configure and troubleshoot enterprise networks and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation.

ACCREDITATION STATEMENTS AND COURSE NOTES:

None

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Advanced WAN Setup
2. Quality of Service Implementation / Configuration
3. Advanced VLAN Configuration / Connectivity
4. Software Designed Networking / Virtualization
5. Identify Security Threats to Networks
6. Intermediate Security Configurations
7. Configuring Secured Network Access
8. Advanced servers / switches / routers configurations
9. Advanced Network Troubleshooting

INSTRUCTIONAL METHODS:

Utilization of physical equipment and simulation software to engage students in comprehensive lab activities challenging their understanding and ability to work collaboratively / individually to overcome challenges and develop their skillset.

EVALUATION OF STUDENT ACHIEVEMENT:

Labs

Quizzes

Written and Practical Final

INSTRUCTIONAL MATERIALS:

Textbooks: None

Resources

Cisco's Learning Management System

Cisco's Packet Tracer (Simulation software)

Cisco's hardware Devices (Routers and Switches)

Course contents must be access using Cisco's LMS.

Students will be provided with an account to login and access current course contents.

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- 1) Communication – to communicate effectively.
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion.
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally.
- 4) Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

1. Advanced WAN Setup: Students will be able to configure Wide Area Networks using advanced routing protocols including EIGRP and OSPF.
2. QoS Implementation: Students will be able to configure Quality of Services operations such as VOIP.
3. Advanced Switch / Router Configuration: Students will be able to configure advanced protocols such STP, LACD, and PAgP.
4. Advanced Network Troubleshooting: Students will be able to identify / resolve more complex operations and quality of services issue.