ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: CSN 1241 Introduction to Networks

Effective Date: Fall 2024 Submitted Date: Spring 2024

Credit Hours: 3

IAI Number, if applicable:

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

Prerequisite(s): None

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

Corequisite(s): None

Pre- or Corequisite(s): None

Consent of Instructor: ☐ Yes ☒ No

Delivery Method:		
☒ **Lecture**	**2 Contact Hours**	**(1 contact = 1 credit hour)**
☐ **Seminar**	**0 Contact Hours**	**(1 contact = 1 credit hour)**
☒ **Lab**	**3 Contact Hours**	**(2-3 contact = 1 credit hour)**
☐ **Clinical**	**0 Contact Hours**	**(3 contact = 1 credit hour)**

Offered: ☒ **Fall** ☒ **Spring** ☐ **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):
The first of three courses in the Cisco Certified Networking Associates, (CCNA), curriculum designed to prepare students to pass the CCNA Certification Exam. The course introduces the architectures, models, protocols, and networking elements that connect users, devices, applications, and data through the Internet and across modern computer networks - including IP addressing and Ethernet fundamentals. By the end of the course, students can build simple local area networks (LAN) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

ACCREDITATION STATEMENTS AND COURSE NOTES:
None

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Basic LAN / WAN Setup
2. IP Design / DHCP Setup
3. Understanding OSI / TCP-IP Models
4. Basic IPv4 / IPv6 Configuration
5. Understanding Standard Network Protocols
6. Basic VLAN Connectivity
7. Configuring Basic Network Access
8. Configuring servers / switches / routers
9. Remote access
10. Basic 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:
Variety of 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)

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. Basic LAN / WAN Setup: Students will be able to install / configure networking equipment for a basic network infrastructure.
2. Basic IPv4 & IPv6 Configuration: Students will be able to identify and configure IP Addressing solution for a small / basic network environment.
3. Understanding Network Protocols: Students will be able to identify and associate the proper network protocol based on the data in a network system.
4. Student will be able conduct basic networking troubleshooting steps to resolve network connectivity issues.