JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Introduction to Networks

Course Abbreviation and Number: CSC 2510 **Credit Hours:** 3 **Course Type:** Lecture

Course Description: Students will explore topics in computer networking including networking design and architecture, data transmission, standards, and protocols. Local area networks (LAN) and wide area networks (WAN) will be studied along with the technologies that support the Internet. Upon course completion, students will demonstrate knowledge of these topics and have the ability to work with these concepts. Students will have some hands-on experience in this course.

Prerequisite/Corequisite: CSC 1570.

General Education Requirements Met

JCC

Applied Learning

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Design a basic LAN given specific parameters and constraints
2. Develop an IP addressing scheme that meets a stated set of requirements
3. Install and configure a small local area network
4. Differentiate between the available LAN and WAN architectures and protocols
5. Analyze network performance and problems
6. Determine additional computer networking knowledge and skills required to meet their current and future training requirements
7. Effectively apply knowledge and skills to a real-world experience, creative project, or independent intellectual investigation. [JCC Gen Ed – Applied Learning]
8. Thoughtfully reflect on connections between concepts studies in the classroom & insights gained from an applied learning experience/project. [JCC Gen Ed – Applied Learning]

Topics Covered:

- Introduction to computer networks and how they are used
- Networking terminology
- Networking
  - Packet switching
  - Framing, parity, error detection
  - Local (LAN) and wide area (WAN) networking technologies
  - Addressing
  - Topologies
  - Performance and measures of delay and throughput
  - Protocol Layers
- Internets and Internetworking
  - Internet Protocol (IP)
  - Routers and routing
  - Internet protocols
    - ICMP
    - TCP
    - DNS
    - HTTP
    - FTP
    - SMTP
- Network Hardware
  - Media
  - Devices
- Network Applications
  - Client-server paradigm
  - E-mail
  - IP Telephony (VoIP)
- Designing and implementing a network
- Ethics and network security
- Network troubleshooting

Information for Students

- Expectations of Students
  - Civility Statement
  - Student Responsibility Statement
  - Academic Integrity Statement
- Accessibility Services

Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.

- Get Help: JCC & Community Resources
- Emergency Closing Procedures
- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0

- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

Effective Date: Fall 2021