



MASTER COURSE OUTLINE

Prepared By: Tom Willingham

Date: October 2018

COURSE TITLE

Networking Fundamentals

GENERAL COURSE INFORMATION

Dept.: CS

Course Num: 110

(Formerly:)

CIP Code: 11.0901

Intent Code: 21

Program Code: 527

Credits: 4

Total Contact Hrs Per Qtr.: 55

Lecture Hrs: 33

Lab Hrs: 22

Other Hrs:

Distribution Designation: General Elective (GE)

COURSE DESCRIPTION (as it will appear in the catalog)

An introduction to the basic concepts of computer networking, including: the OSI model, working with network-related hardware, network configuration with TCP/IP, network operating system basics, fault tolerance issues, and troubleshooting network problems. The course prepares students for the CompTIA Network+ certification exam.

Note: This course's learner outcomes align to the common IT course, IT 115: Introduction to Networking, and is accepted as a transfer course with participating Washington State community and technical colleges. Look for this notation if transferring to another IT program at a Washington State community or technical college.

PREREQUISITES

None

TEXTBOOK GUIDELINES

Textbook to be determined by CS Faculty. (Example: *Mike Meyers CompTIA Network+ Guide to Managing and Troubleshooting Networks*)

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Define and describe the components of a computer network
2. Describe networking models, topologies, and numbering systems
3. Define and describe network protocols
4. Explain basic cables and connectors, and testing procedures
5. Describe how different networks are connected
6. Describe basic network troubleshooting procedures
7. Understand and describe the basics of network security
8. Define and describe basic network troubleshooting methods
9. Describe how to implement a basic network

INSTITUTIONAL OUTCOMES

IO1 **Communication:** Students will be able to communicate clearly and effectively within a workplace context

COURSE CONTENT OUTLINE

1. The CompTIA Network+ exam.
2. Network models.
3. Network cabling and topology.
4. Ethernet basics.
5. The modern Ethernet.
6. Installing a physical network.
7. TCP/IP basics.
8. Routing concepts.
9. TCP/IP applications.
10. Network naming using DNS and WINS.
11. Methods for securing TCP/IP networks.
12. Advanced networking devices.
13. Concepts of IPv6.
14. Remote connectivity technologies.
15. Wireless networking.
16. Network security techniques and technologies
17. Virtualization
18. Network management
19. SOHO network
20. Network troubleshooting tools and processes

DEPARTMENTAL GUIDELINES *(optional)*

Course instruction prepares students for the CompTIA Network+ certification exam

DIVISION CHAIR APPROVAL

DATE