SYLLABUS

DATE OF LAST REVIEW: 02/2013

CIP CODE: 11.0901

SEMESTER: Departmental Syllabus

COURSE TITLE: Small-to-Medium Business or ISP

COURSE NUMBER: NETW 0144

CREDIT HOURS: 8

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE(S): NETW 0140 Home and Small Business Networking

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com/, for the required texts for your particular class.

COURSE DESCRIPTION:
The Working at a Small-to-Medium Business or ISP course is designed to introduce students to the structure of the Internet and how Internet communications occur between hosts. Students will install, configure, and troubleshoot Cisco IOS® devices for Internet and server connectivity as well as, plan a basic wired infrastructure to support network traffic. Students will be able to implement basic WAN connectivity using Telco services and demonstrate proper disaster recovery procedures and perform server backups. Students will learn how to monitor network performance and isolate failures and troubleshoot problems using an organized, layered procedures. Students will also be able to describe the OSI model and the process of encapsulation and how it relates to the different aspects of sending data across a network.
METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:
I. The Internet and Its Uses
   A. Chapter Introduction
   B. What is the Internet?
   C. Internet Service Providers
   D. ISP Connectivity
   E. Chapter Summary

II. Help Desk
   A. Chapter Introduction
   B. Help Desk Technicians
   C. OSI Model
   D. ISP Troubleshooting
   E. Chapter Summary

III. Planning a Network Upgrade
    A. Chapter Introduction
    B. Common Issues
    C. Planning the Network Upgrade
    D. Purchasing and Maintaining Equipment
    E. Chapter Summary

IV. Planning the Addressing Structure
    A. Chapter Introduction
    B. IP Addressing in the LAN
    C. NAT and PAT
    D. Chapter Summary

V. Configuring Network Devices
    A. Chapter Introduction
    B. Initial ISR Router Configuration
    C. Configuring an ISR with SDM
    D. Configuring a Router Using IOS CLI
    E. Connecting the CPE to the ISP
    F. Expanding LAN Switching Connectivity
    G. Chapter Summary

VI. Routing
A. Chapter Introduction
B. Enabling Routing Protocols
C. Exterior Routing Protocols
D. Chapter Summary

VII. ISP Services
A. Chapter Introduction
B. Introducing ISP Services
C. Protocols That Support ISP Services
D. Domain Name Service
E. Services and Protocols
F. Chapter Summary

VIII. ISP Responsibility
A. Chapter Introduction
B. ISP Security Considerations
C. Security Tools
D. Monitoring and Managing the ISP
E. Backups and Disaster Recovery
F. Chapter Summary

IX. Preparing for Certification
A. What Does a Cisco Certification Measure?
B. Ways to Prepare
C. Identifying and Correcting Layer 1 Issues
D. Identifying and Correcting Layer 2 Issues
E. Identifying and Correcting Layer 3 IP Addressing Issues
F. Identifying and Correcting Layer 3 IP Routing Issues
G. Common Upper Layer Connectivity Issues
H. Chapter Summary

X. Capstone Project- Implement a Equipment Upgrade on a Customer Network
A. Create an IP addressing plan for a small network.
B. Implement a network equipment upgrade.
C. Verify device configurations and network connectivity.
D. Create material lists for required materials.
E. Identify material vendors
F. Do material cost comparisons
G. Figure labor costs.

EXPECTED LEARNER OUTCOMES:

A. The student will be able to describe The Internet and Its Uses
B. The student will be able to describe Help Desk
C. The student will be able to describe Planning a Network Upgrade
D. The student will be able to describe Planning the Addressing Structure
E. The student will be able to describe Configuring Network Devices
F. The student will be able to describe Routing
G. The student will be able to describe ISP Services
H. The student will be able to describe ISP Responsibility
I. The student will be able to describe Preparing for Certification
J. The student will be able to describe Capstone Project - Implement a Equipment Upgrade on a Customer Network

COURSE COMPETENCIES:

The student will be able to describe The Internet and Its Uses
1. The student will be able to describe the history of the Internet
2. The student will be able to describe What is the Internet?
3. The student will be able to describe Internet Service Providers
4. The student will be able to describe ISP Connectivity
5. The student will be able to summarize The Internet and its Uses

The student will be able to describe Help Desk
6. The student will be able to describe the purpose of a Help Desk
7. The student will be able to describe Help Desk Technicians
8. The student will be able to describe OSI Model
9. The student will be able to describe ISP Troubleshooting
10. The student will be able to summarize Help Desk

The student will be able to describe Planning a Network Upgrade
11. The student will be able to describe Network Upgrades
12. The student will be able to describe Common Issues
13. The student will be able to describe Planning the Network Upgrade
14. The student will be able to describe Purchasing and Maintaining Equipment
15. The student will be able to summarize Network Planning and Upgrade

The student will be able to describe Planning the Addressing Structure
16. The student will be able to describe Address Structure
17. The student will be able to describe IP Addressing in the LAN
18. The student will be able to describe NAT and PAT
19. The student will be able to summarize the Planning of the Address Structure

The student will be able to describe Configuring Network Devices
20. The student will be able to describe Configuring Network Devices
21. The student will be able to describe Initial ISR Router Configuration
22. The student will be able to describe Configuring an ISR with SDM
23. The student will be able to describe Configuring a Router Using IOS CLI
24. The student will be able to describe Connecting the CPE to the ISP
25. The student will be able to describe Expanding LAN Switching Connectivity
26. The student will be able to summarize Configuring Network Devices

The student will be able to describe Routing
27. The student will be able to describe Routing
28. The student will be able to describe Enabling Routing Protocols
29. The student will be able to describe Exterior Routing Protocols
30. The student will be able to summarize Routing

The student will be able to describe ISP Services
31. The student will be able to describe the purpose of Network Services
32. The student will be able to describe management of ISP Services
33. The student will be able to describe Protocols That Support ISP Services
34. The student will be able to describe Domain Name Service
35. The student will be able to describe Services and Protocols
36. The student will be able to summarize how ISP Services work

The student will be able to describe ISP Responsibility
37. The student will be able to describe ISP Responsibility
38. The student will be able to describe ISP Security Considerations
39. The student will be able to describe Security Tools
40. The student will be able to describe Monitoring and Managing the ISP
41. The student will be able to describe Backups and Disaster Recovery
42. The student will be able to summarize ISP Responsibility

The student will be able to describe Preparing for Certification
43. The student will be able to describe What Does a Cisco Certification Measure?
44. The student will be able to describe Ways to Prepare for Certification
45. The student will be able to identify and correct Layer 1 Issues
46. The student will be able to describe Identify and Correct Layer 2 Issues
47. The student will be able to describe Identify and Correct Layer 3 IP Addressing Issues
48. The student will be able to describe Identify and Correct Layer 3 IP Routing Issues
49. The student will be able to describe Common Upper Layer Connectivity Issues
50. The student will be able to summarize the procedures for Certifying

The student will be able to describe Implement a Equipment Upgrade on a Customer Network
51. The student will be able to describe Create an IP addressing plan for a small network.
52. The student will be able to describe Implement a network equipment upgrade.
53. The student will be able to describe Verify device configurations and network connectivity.
54. The student will be able to describe Create material lists for required materials.
55. The student will be able to describe Identify material vendors
56. The student will be able to demonstrate material cost comparisons
57. The student will be able to describe Figuring labor costs.

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center at (913) 288-7670 V/TDD.