Bossier Parish Community College
Master Syllabus

Course Prefix and Number: CTEC 255 **Credit Hours:** 4-4-0

Course Title: CCNA I

Course Co-Requisites: CTEC 155

Textbook(s) and Materials: This course will utilize the learning modules and materials provided by the Cisco Networking Academy through https://www.netacad.com.

Course Description: This course introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, you will be able to build simple LANS, perform basic configurations for routers and switches, and implement IP addressing schemes. This class will help prepare students for the CCNA exam, it is the first of a three part series.

Learning Outcomes:
At the end of this course, the student will:

A. identify details of each layer of the OSI model;
B. recognize network topologies and functions;
C. explain the IP addressing scheme; and
D. create a simple local area network

To achieve the learning outcomes, the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)

1. Explain the advances in modern network technologies (A,B),
2. Implement initial settings including passwords, IP addressing, and default gateway parameters on a network switch and end devices (B,C,D),
3. Explain how network protocols enable devices to access local and remote network resources (A,B),
4. Explain how physical layer protocols, services, and network media support communications across data networks (A,B,C),
5. Calculate numbers between decimal, binary, and hexadecimal systems (C),
6. Explain how media access control in the data link layer supports communications across networks (A,B),
7. Explain how Ethernet operates in a switched network (A,B,C,D),
8. Explain how routers use network layer protocols and services to enable end-to-end connectivity (A,B,C,S),
9. Explain how ARP and ND enable communication on a local area network (8),
10. Implement initial settings on a router and end devices (D),
11. Calculate an 1Pv4 subnetting scheme to efficiently segment your network (C),
12. Implement an 1Pv6 addressing scheme (D),
13. Use various tools to test network connectivity (B,D),
14. Compare the operation of transport layer protocols in supporting end-to-end

communication (A,B,C),

15. Explain the operation of the application layer in providing support to end-user applications (A,B),
16. Configure switches and routers with device hardening features to enhance security (D), and
17. Troubleshoot connectivity in a small network (C,D).

Course Requirements:

1. The final exam for this course is required to be taken on campus or an approved proctored environment.
2. A student must successfully complete the course with an average of 70% or above on the combined learning outcomes.
3. Each student is expected to attend classes regularly; excessive unexcused absences constitute grounds for suspension (refer to the student handbook for attendance policies).

Course Grading Scale:

90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
0 – 59 = F

Attendance Policy: The college attendance policy is available at http://catalog.bpcc.edu/content.php?catoid=5&navoid=369

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams, and/or clinical fees.

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

COORDINATOR FOR SECTION 504 AND ADA
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Equity/Compliance Coordinator

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