

Bossier Parish Community College  
Master Syllabus

**Course Prefix and Number:** CTEC 256

**Credit Hours:** 4-4-0

**Course Title:** CCNA II

**Course Prerequisite:** CTEC 255

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

**Optional Textbook:** Cisco Press. Switching, Routing and Wireless Essentials v7 Companion Guide, 1<sup>st</sup> edition. ISBN: 9780136634720

**Course Description:** This course is the second in the CCNA series. In this course, Switching, Routing, and Wireless Essentials (SRWE), we will cover the architecture, components, and operations of routers and switches in small-to-medium networks and introduce wireless local area networks (WLAN) and security concepts. In addition to learning, key switching and routing concepts, learners will be able to perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN along with security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks.

**Learning Outcomes:**

At the end of this course, the student will:

- A. Recognize the function and operation of Routers and Switches;
- B. Explain the routing process;
- C. Demonstrate setup and configuration along with security implantation;
- D. Discuss VLAN routing and trunking; and
- E. Discuss WLAN technology and how to implement across networks.

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. Configure devices using security best practices (A, C);
2. Explain how Layer 2 switches forward data (A, B);
3. Implement VLANs and trunking in a switched network (C, D);
4. Troubleshoot inter-VLAN routing on Layer 3 devices (A, C, D);
5. Explain how STP enables redundancy in a layer 2 network (A, B);
6. Troubleshoot EtherChannel on switched networks (A, B, C, D);
7. Implement DHCPv4 to operate across multiple LANs (A, B);
8. Configure dynamic address allocation in IPv6 networks (A, B, C);
9. Explain how FHRPs provide default gateway services in a redundant network (A, B);
10. Explain how vulnerabilities compromise LAN security (A, B, C, D);
11. Configure switch security to mitigate LAN attacks (A, B, C, D);
12. Explain how WLANs enable network connectivity (A, D, E);
13. Implement a WLAN using a wireless router and a WLC (A, D, E);
14. Explain how routers use information in packets to make forwarding decisions (B); and
15. Configure IPv4 and IPv6 static routes and troubleshoot (C).

**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:**

A = 90 - 100

B = 80 - 89

C = 70 - 79

D = 60 - 69

F = 0 - 59

**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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