

EDC104 Routing and Switching in the Enterprise

Course Syllabus

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Course Description: This course familiarizes students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP Telephony requirements, and security. It also introduces advanced routing protocols such as Enhanced Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises, including configuration, installation, and troubleshooting, reinforce student learning.

Textbook: Interconnecting Cisco Network Devices, Part 2 (ICND2): (CCNA Exam 640-802 and ICND exam 640-816), 3rd Edition ISBN-10: 1-58705-463-9; ISBN-13: 978-1-58705-463-1; Published: Feb 13, 2008; Copyright 2008; Dimensions 7-3/8x9-1/8; Pages: 408; Edition: 3rd.

Computing Resources

The completion of this course requires the student to have personal computing resources readily available. The students will need internet access to read the curriculum and complete assignments for homework. "Packet Tracer" is simulation software, will be provided to the students, and will be used extensively to complete assignments. [Packet Tracer 5 FAQ](#)

Prerequisites

The completion of this course requires the successful completion of CET101, EDC103, CompTIA A+ Certification or permission of instructor.

Instructional Philosophy: This course requires extensive student reading, completion of written assignments and completion of hands-on laboratory projects. There will be a balance of lecture and demonstration throughout the course.

The course presentation is designed to continually reinforce the material covered each week on approximately a module per week schedule. Typically 1 or 2 labs are completed for each Module and each lab has a set of review questions used to evaluate the completion of the lab. A module assessment is completed following a brief review.

The assessment for the course will be divided between the written homework assignments and module tests.

Course Goals

- Help students recognize the significant impact of networking on their lives
- Teach students how to build and support a home or small business network with wireless equipment
- Instill a sense of awe in students and encourage them to learn more about how things work and to pursue careers in networking

- Prepare students for entry-level jobs in the industry by employing interactive and engaging instructional approaches that help them understand general theory and gain practical experience
- Teach students the fundamental concepts of networking
- Provide opportunities for extensive hands-on interaction with PC and networking equipment to prepare students for careers and certification exam.
- Establish the relevancy of networking in our everyday lives

Major Course Projects and Assignments

Upon completion of the Introducing Routing and Switching in the Enterprise course, students will be able to perform the following tasks:

- Implement a LAN for an approved network design
- Configure a switch with VLANs and inter-switch communication
- Implement access lists to permit or deny specified traffic
- Implement WAN links
- Configure routing protocols on Cisco devices
- Perform LAN, WAN, and VLAN troubleshooting using a structured methodology and the OSI model

1. Technical Performance Projects. Module Laboratory Assignments will be completed throughout the duration of the course:

2. Applied Academics Projects. For each of the modules, the student's will be responsible for reading the module and completing the end-of-module review assignments. Weekly lectures, labs, and a test are completed to finalize the material in each module.

3. Problem Solving Projects. The student's will develop and practice their problem solving skills by completing labs. The various problems and issues that are presented serve as effective means for the students to develop broad-based, practical troubleshooting skills required to tackle any networking issue.

Course Assessment Plan

Late Work: NO LATE WORK WILL BE ACCEPTED!!!

Make-ups: There will be no make-up tests unless previously arranged with the instructor.

Attendance: In accordance with the course catalog.

Grade Performance Standard

Performance Standards: Grades for the course will be based on the following levels of performance:

A. Independent Learner

Did research, designed and planned; applied academic skills; evaluated work and made adjustments; did quality work; needed little help from the teacher; sought and found resources independently; displayed a positive attitude; demonstrated knowledge with a grade of 90 or higher.

B. Semi-Independent Learner

Did research, designed and planned; needed some help from the teacher; did quality work with a few flaws; needed feedback from the teacher to realize work could use improvement; redid work to meet standards; displayed a generally positive attitude; demonstrated knowledge with a grade of 80 or higher.

C. Dependent Learner

Needed help to research, design and plan or had to be given a plan; relied a great deal on the teacher; had to be given procedures for performing tasks; required significant help to produce a quality product; needed help to evaluate a product; final product still did not meet standards; attitude displayed could use improvement; demonstrated knowledge with a grade of 70 or higher.

D. Highly Dependent Learner

Needed significant help to research, design and plan or had to be given a plan; relied a solely on the teacher; had to be given procedures for performing tasks; could not produce a quality product independently; needed help to evaluate a product; final product still did not meet standards; poor attitude; demonstrated knowledge with a grade of 65 or higher.

F. Failure

Did not complete assignments; if assignments were completed, they were of such low quality that they did not pass; failed to follow procedures; did not show criteria for determining quality; behavioral problem; scored less than 65 on knowledge tests; produced a poor or no portfolio.

Assessment Description

Percent of Grade

Tests

40

Labs

40

Homework

20

Tests will be scheduled on the assessment server for 7 days each week with appropriate time limits. It is the student's responsibility to take, or in some cases re-take, scheduled tests.

The instructor reserves the right to change any portion of this syllabus at any time.