

# **NET 2415 - Cisco TCP/IP Routing Protocols and Router Configuration**

## **Weber State University - Network Management Technology**

### **Fall 2020**

Instructor: Andrew Drake  
Classroom: Online  
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Office Hours: Virtual office hours - T/R 11:00 - 2:00

#### **Course Description:**

This course is the first in a two-course series designed to cover the materials required to pass the examination for the Cisco Certified Network Associate (CCNA) certification. This course uses the Cisco NetAcad coursework **Introduction to Networks (ITN)** and **Switching, Routing, and Wireless Essentials (SWRE)**. CCNA certification is not required for this course but it is an excellent goal.

#### **Recommended Text**

CCNA 200-301 Portable Command Guide Fifth Edition 5th Edition

- ISBN-10: 0135937825

#### **Learning Outcomes:**

- Configure switches and end devices to provide access to local and remote network resources.
- Explain how physical and data link layer protocols support the operation of Ethernet in a switched network.
- Configure routers to enable end-to-end connectivity between remote devices.
- Create IPv4 and IPv6 addressing schemes and verify network connectivity between devices.
- Explain how the upper layers of the OSI model support network applications.
- Configure a small network with security best practices.
- Troubleshoot connectivity in a small network.
- Configure VLANs and Inter-VLAN routing applying security best practices.
- Troubleshoot inter-VLAN routing on Layer 3 devices.
- Configure redundancy on a switched network using STP and EtherChannel.
- Troubleshoot EtherChannel on switched networks.
- Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols.
- Configure dynamic address allocation in IPv6 networks.
- Configure WLANs using a WLC and L2 security best practices.
- Configure switch security to mitigate LAN attacks.
- Configure IPv4 and IPv6 static routing on routers.

#### **Teaching Methods:**

The Cisco Networking Academy portal will be used for slides, interactive applets, virtualized lab work, and testing. The instructor will record videos with explanations of lab work, review of key concepts, and other helpful materials. Grades will be kept through the Netacad portal (Weber's

Canvas will not be used for this course). Virtual labs are available for assignments, assessment, and self study.

**Quizzes and Labs:**

The main focus of the ITN materials will be lab work and reading of chapter materials. There will not be chapter exams or final exams on those materials. The bulk of the class will be spent with the SWRE materials. Chapter exams will be taken through netacad, only one attempt will be allowed for each exam. Lab work will be primarily completed with Cisco's packet tracer software. It can be downloaded for free when you login at netacad.com. There will be a comprehensive multiple choice exam and practical exam at the end of the semester. Learning through lab work is an excellent way to approach the course's learning objectives. The number of lab assignments and their weighting in your final grade will reflect that.

**Grade Scale:**

94% - 100 % = A	90% - 93% = A-	
87% - 89% = B+	83% - 86% = B	80% - 82% = B-
77% - 79% = C+	73% - 76% = C	70% - 72% = C-
67% - 69% = D+	63% - 66% = D	60% - 62% = D-

**Assignments: 60% Chapter Exams: 15% Skill Exam: 10% Final Exam: 15%**  
**Final grade for the course will be weighted 20% from 2415A and 80% from 2415B**

**Late Work:**

The class will be set up on a Tuesday/Thursday schedule similar to a face to face class. There is a lot of material to cover and the instructor has paced the due dates to try and keep it as even as possible. Keeping the pace of the course is strongly encouraged. It is at the instructor's discretion to allow late work.

**ADA:**

Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Student Services Center. SSD can also arrange to provide course materials (including the syllabus) in alternative formats if necessary.

**Course Fees:**

Course fees in NET 2415 are designed to cover the costs of equipment maintenance and replacement such as routers and servers, annual Cisco training fees, consumable materials, and supplies.

**Academic Honesty:**

Any attempt to gain an unfair advantage during exams, or submitting another person's work as your own, is considered cheating. NMT policy dictates that any verifiable evidence of student academic cheating, as defined and determined by the instructor, will result in: 1) an automatic

failing grade for the class and 2) a report to the Dean of Students that will include the student's name and a description of the student's dishonest conduct. You can find more information about academic honesty in the Weber State Policies and Procedures Manual.

[http://www.weber.edu/ppm/Policies/6-22\\_StudentCode.html](http://www.weber.edu/ppm/Policies/6-22_StudentCode.html)

**Campus Closure:**

In the event of the campus being closed, please check your student email for instruction.