CCRI CNVT-2030 CCNP Enterprise Core ENCOR (SWITCH)   Spring 2024

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Class Sections   Independent Study

Instructional Material and Web Sites

1	CCRI PowerPoint Presentations	https://www.ccri.edu/faculty_staff/comp/jmowry/CCNP_Enterprise_Core_ENCOR/ENCOR_Pages/ENCOR_Page_1.htm
2	Cisco Academy Assessment Web Site	http://netacad.com
3	Text Book	CCNP and CCIE Enterprise Core ENCOR 350-401 Official Cert Guide, By. Brad Edgeworth, Kevin Wallace, David Hucaby, Jason Gooley, Ramiro Garza Rios. ISBN-10: 1-58714-523-5, ISBN-13: 978-1-58714-523-0
4	Lab Manual	CCNP Enterprise: Core Networking (ENCOR) v8 Lab Manual, 2nd Edition. By Cisco Networking Academy. ISBN-10: 0-13-690643-5, ISBN-13: 978-0-13-690643-8

Class Meeting Description's:

In-Person

1. Students are required to meet with your advisor / Instructor weekly, and present a, progress report.
2. Laboratory activities must be completed in a timely manner.
3. Chapter exams will be enabled at the students request.
4. Final Exam and Practical Exam will be taken only in-person, at the scheduled time, in the student schedule, provided by CCRI when enrolled in the course, at the CCRI Warwick campus.

Grading Policies

Skills:

Journal-Entries	5%
Labs and Class Participation	10%
Practical Final	50%

Academic:

Quizzes	10%
Final	25%

Course Objectives:

Student will be able to:

- Configure L2 redundancy in an enterprise network.

- Configure EIGRP to optimize performance in an enterprise network.

- Implement advanced OSPF features to improve performance in both IPv4 and IPv6 enterprise networks.

- Configure eBGP in a single-homed remote access network.

- Explain the concepts of multicast operation and QoS in an enterprise network.

- Configure IP services and VPNs to support secure, managed site-to-site and remote-access networks.

- Explain how wireless topologies and antennas allow APs to pair with WLCs in an enterprise network.

- Implement secure wireless networks to manage and support wireless roaming.

- Implement advanced technologies to support a secure and scalable enterprise network architecture.

- Configure network technologies to provide secure infrastructure access.

- Explain the purposes and characteristics of virtualization and network automation.

Other Policies

1. The student expected to complete the On-Line lessons outside of class time.

2. All quizzes must be taken in class and will not be available from the student web site

3. After the listed due date, late submissions (up to one week) will be graded at 75%

4. Assignments submitted more than one week after the listed due date will receive a grade of zero.

5. All assignments must be completed using a word processor.

6. Students are responsible to see the instructor about any work missed due to absence.

7. Students who miss a quiz must take the quiz within two classes of the original quiz date.

8. Students are expected to participate as a member of teams

9. Students must pass both the Skills based portion in addition to the Academic portion of the curriculum to pass the course.

10. Student's final grade can only raise one letter grade above the on-line final exam score based on other class assignments.

11. Students are allowed a **maximum** of three (3) re-takes of chapter quizzes per the semester.

12. All re-takes must be completed **prior** to the final exam, **without exception**.

13. Department policy is that if you miss the equivalent of two (2) weeks of classes your final grade will drop by one (1) letter grade.

Practical Exam

The Practical Exam will be taken in the classroom when assigned, via the Netlab server. Students may use their Hand-Written Notes only. No electronic media will be allowed and the use thereof will result in a failure in the course, this includes phones as well as USB's..

Final Exam

The Final Exam will be taken in the classroom at the time specified in this document. The exam will be taken via the Netacad website and no notes or electronic media is allowed, this includes phones as well as USB's.

CCNP Enterprise Core ENCOR (SWITCH) Syllabus Spring 2022

Class	Lesson	Exam	Subjects	Labs
Week 1	1,2,3		Packet Forwarding Spanning Tree Advanced STP Tuning	**1.1.2** - Implement Inter-VLAN Routing **2.1.2** - Observe STP Topology Changes and Implement RSTP **3.1.2** - Implement Advanced STP Modifications and Mechanisms
Week 2	4,5		Multiple Spanning Tree Protocol VLAN Trunks and EtherChannel Bundles	**4.1.2** - Implement MST **5.1.2** - Implement VTP **5.1.3** - Implement EtherChannel **5.1.4** - Tune and Optimize EtherChannel Operations
Week 3	6,7	1 (1-5)	IP Routing Essentials EIGRP	**6.1.2** - Investigate Static Routes **6.1.3** - Implement VRF-Lite
Week 4	8,9,10	2 (6-7)	OSPF Advanced OSPF OSPFv3	**8.1.2** - Implement Single-Area OSPFv2 **9.1.2** - Implement Multi-Area OSPFv2 **9.1.3** - OSPFv2 Route Summarization and Filtering **10.1.2** - Implement Multiarea OSPFv3
Week 5	11,12	3 (8-10)	BGP Advanced BGP	**11.1.2** - Implement eBGP for IPv4 **11.1.3** - Implement MP-BGP **12.1.2** - Implement BGP Path Manipulation **12.1.3** - Implement BGP Communities
Week 6	13, 14, 15, 16	4 (11-12) 5 (13 – 14)	Multicast IP Services IP Services Overlay Tunnels	**15.1.2** - Implement NTP **15.1.3** - Implement HSRP **15.1.4** - Implement VRRP

Class	Lesson	Exam	Subjects	Labs
Week 7				**15.1.5** - Implement GLBP **15.1.6** - Implement NAT **16.1.2** - Implement a GRE Tunnel **16.1.3** - Implement IPsec Site-to-Site VPNs **16.1.4** - Implement GRE over IPsec Site-to-Site VPNs **16.1.5** - Implement IPsec VTI Site-to-Site VPNs
Week 8	17, 18, 19, 20, 21	6 (15 – 16) 7 (17 – 19)	Wireless Signals and Modulation Wireless Infrastructure Understanding Wireless Roam and Location Services Authenticating Wireless Clients Troubleshooting Wireless Connectivity	**20.2.1** - Configure a basic WLAN on the WLC **20.2.2** - Configure a WPA2 Enterprise WLAN on the WLC **21.2.1** - Troubleshoot WLAN Issues
Week 9	22, 23, 24	8 (20 – 21)	Enterprise Network Architecture Fabric Technologies Network Assurance	**24.1.2** - Use Connectivity Tests and Debug for Network Assurance **24.1.3** - Implement SNMP and Syslog **24.1.4** - Implement Flexible Netflow **24.1.5** - Implement SPAN Technologies **24.1.6** - Implement IP SLA
Week 10	25, 26	9 (22 – 24)	Secure Network Access Control Network Device Access Control and Infrastructure Security	*** 25.1.2** - Install the CCNP Virtual Machine (Optional) **26.1.2** - Implement IPv4 ACLs **26.1.3** - Configure Protections for Passwords and Terminal Lines **26.1.4** - Configure Local and Server-Based AAA Authentication **26.1.6** - Implement CoPP
Week 11	27, 28, 29	10 (25 – 26)	Virtualization Foundational Network Programmability Concepts Introduction to Automation Tools	*** 28.1.2** - Construct a Basic Python Script (Optional) **28.1.3** - Use the Netmiko Python Module to Configure a Router *** 28.1.4** - Use NETCONF to Access an IOS XE Router (Optional) *** 28.1.5** - Use RESTCONF to Access an IOS XE Router (Optional)
Week 12		11 (27 – 29)	**Open for Review**	
Week 13	**Open Lab**			
Week 14	**Final Exam / Three Hour Practical Exam**			

Labs marked with a * are Optional

This Document is subject to change!