

Cisco Discovery 2: Working at a Small-to-Medium Business or ISP (ITCC 1311)



Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Prerequisite/Co-requisite: ITCC 1310

Course Description

This course prepares students for jobs as network technicians. It also helps students develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and remote access, addressing, and security. It also familiarizes students with servers that provide e-mail services, Web space, and authenticated access. Students also learn about soft skills required for help desk and customer service positions. Network monitoring and basic troubleshooting skills are taught on context.

Required Textbook and Materials

1. *Routing and Switching Essentials*, by Cisco Networking Academy, Cisco Press, 2013.
 - a. ISBN number for print book is 978-1-58713-318-3
 - b. ISBN number for E-book is 978-0-13347-622-4

Course Objectives

Upon completion of this course, the student will be able to:

1. Describe the structure of the Internet and how Internet communications occur between hosts.
2. Install, configure, and troubleshoot Cisco IOS® devices for Internet and server connectivity.
3. Plan a basic wired infrastructure to support network traffic.
4. Implement basic WAN connectivity using Telco services.
5. Monitor network performance.
6. Isolate failures.
7. Demonstrate proper disaster recovery procedures
8. Perform server backups.
9. Use the OSI and TCP/IP models and the process of encapsulation to troubleshoot problems using an organized, layered procedure

Course Outline

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|--------------------------------------|----------------------|
| A. Routing Concepts | 2. Routing Decisions |
| 1. Initial Configuration of a Router | 3. Router Operation |

Approved 1/2014

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Course Syllabus

4. Analyze the Routing Table
 5. Directly Connected Routers
 6. Statically Learned Routes
 7. Dynamic Routing Protocols
- B. Static Routing
1. Static Routing Implementation
 2. Configure Static and Default Routes
 3. Review of CIDR and VLSM
 4. Configure Summary and Floating Static Routes
 5. Troubleshoot Static and Default Route Issues
- C. Routing Dynamically
1. Dynamic Routing Protocols
 2. Distance Vector Dynamic Routing
 3. RIP and RIPng Routing
 4. Link-State Dynamic Routing
 5. The Routing Table
- D. EIGRP
1. Characteristics of EIGRP
 2. Configuring EIGRP
 3. Operation of EIGRP
 4. Configuring EIGRP for IPv6
- E. EIGRP Advanced Configurations and Troubleshooting
1. Advanced EIGRP Configurations
 2. Troubleshoot EIGRP
- F. Single-Area OSPF
1. Characteristics of OSPF
 2. Configuring Single-Area OSPFv2
 3. Configuring Single-Area OSPFv3
- G. Adjust and Troubleshoot Single-Area OSPF
1. Advanced Single-Area OSPF Implementations
 2. Troubleshooting Single-Area OSPF Implementations
- H. Multiarea OSPF
1. Multiarea OSPF Operation
 2. Configuring Multiarea OSPF
- I. Access Control Lists
1. IP ACL Operation
 2. Standard IPv4 ACLs
 3. Extended IPv4 ACLs
 4. Troubleshoot ACLs
 5. IPv6 ACLs
- J. IOS Images and Licensing
1. Managing IOS System Files
 2. IOS Licensing

Grade Scale

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

Course Evaluation

Final grades will be calculated according to the following criteria:

1. Labs	30%
2. Study Guides	10%
3. Module Tests	30%
4. Final Exam	30%

Course Requirements

1. Demonstrate Proficiency through hands-on labs as assigned.
2. Build and Troubleshoot virtual Labs in Packet Tracer as assigned.

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3. Complete Module Study Guides.

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.
3. Do not bring children to class.
4. No DISRUPTIONS will be tolerated and in this classroom, we will respect one another's right to learn.
5. No late assignments will be accepted.
6. Certification. If a student passes the certification test that is associated with this class, you will receive an "A" on the final exam and credit for 25% of your labs. If you have missed a previous test, you must still take the final exam to substitute for that grade.
7. Attendance Policy. Three absences are allowed. If a student is tardy to class or departs early three (3) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 2 point deduction from your final grade.
8. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
9. Labs. Due dates will be announced by the instructor.
10. Tools. Return all tools and/or software to their designated place.
11. A grade of 'C' or better must be earned in this course for credit toward degree requirement.
12. Additional class policies as defined by the individual course instructor.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule

Week of	Topic	Reference
Week 1	Syllabus and policies Course Introduction	https://cisco.netacad.net

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Course Syllabus

Week of	Topic	Reference
	Chapter 1: Routing Concepts	
Week 2	Chapter 1: Routing Concepts Chapter 2: Static Routing	Cisco online
Week 3	Chapter 3: Routing Dynamically	Cisco online
Week 4	Chapter 3: Routing Dynamically	Cisco online
Week 5	Chapter 4: EIGRP	Cisco online
Week 6	Chapter 4: EIGRP	Cisco online
Week 7	Chapter 5: EIGRP Advanced Configurations and Troubleshooting	Cisco online
Week 8	Chapter 6: Single-Area OSPF	Cisco online
Week 9	Chapter 6: Single-Area OSPF	Cisco online
Week 10	Chapter 7: Adjust and Troubleshoot Single-Area OSPF	Cisco online
Week 11	Chapter 7: Adjust and Troubleshoot Single-Area OSPF	Cisco online
Week 12	Chapter 8: Multiarea OSPF	Cisco online
Week 13	Chapter 9: Access Control Lists	Cisco online
Week 14	Chapter 9: Access Control Lists	Cisco online
Week 15	Chapter 10: IOS Images and Licensing	Cisco online
Week 16	Final Exam	https://cisco.netacad.net

Contact Information:

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Additional Course Policies

Additional policies may be determined by individual course instructors. These policies will be indicated in the syllabus that is issued at the start of the course.