Cisco Discovery 1: Networking for Home and Small Business (ITCC 1310)

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

Prerequisite/Co-requisite: None

• Course Description

This introductory course teaches students the skills needed to obtain entry-level home and small business network installer jobs, network technicians, computer technicians, cable installers, and help desk technicians. It provides a hands-on introduction to networking and the Internet using tools and hardware commonly found in home and small business environments. Labs include PC installation, Internet connectivity, wireless connectivity, file and print sharing, and the installation of game consoles, scanners, and cameras.

• Required Textbook and Materials

- *Introduction to Networks Companion Guide,* by Cisco Networking Academy, Cisco Press, 2013.
    - ISBN number for print book is 978-1-58713-316-9
    - ISBN number for E-book is 978-0-13347-544-9

• Course Objectives

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

- Set up a personal computer system and share resources such as files and printers.
- Plan and install a home or small business network and connect it to the Internet using critical thinking to troubleshoot the Internet connection.
- Recognize and mitigate security threats to a small network.
- Configure common Internet applications and basic PC services.

Course Outline

- Exploring the Network
    - Globally Connected
        - LANs, WANs, and the Internet
        - The Network as A Platform
    - The Changing Network Environment
    - Cisco Network Architecture
    - CCNA

- Configuring a Network Operating System
  - IOS Boot Camp
  - Getting Basic
  - Address Schemes

- Network Protocols and Communications
  - Rules of Communication
  - Network Protocols and Standards
  - Moving Data in the Network

- Network Access
  - Physical Layer Protocols
  - Network Media
  - Data Link Layer Protocols
  - Media Access Control

- Ethernet
  - Ethernet Protocol
  - Address Resolution Protocol
  - LAN Switches

- Network Layer
  - Network Layer Protocols
  - Routing
  - Routers
  - Configuring a Cisco Router

- Transport Layer
  - Transport Layer Protocols
  - TCP and UDP

- IP Addressing
  - IPv4 Network Addresses
  - IPv6 Network Addresses
  - Connectivity Verification

- Subnetting IP Networks
  - Subnetting an IPv4 Network
  - Addressing Schemes
  - Design Considerations for IPv6

- Application Layer
  - Application Layer Protocols
  - Well-Known Application Layer Protocols and Services
  - The Message Heard Around the World

- It's a Network
  - Create and Grow
  - Keeping the Network Safe
  - Basic Network Performance
  - Managing IOS Configuration Files
  - Integrated Routing Services

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:

• Labs	30%
• Study Guides	10%
• Module Tests	30%
• Final Exam	30%

Course Requirements

- Hands-on labs as assigned.
- Packet Tracer labs as assigned.
- Module Study Guides.

Course Policies

- No food, drinks, or use of tobacco products in class.
- Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.
- Do not bring children to class.
- No DISRUPTIONS will be tolerated and in this classroom, we will respect one another's right to learn.
- No late assignments will be accepted.
- 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.
- 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.
- 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.
- Labs. Due dates will be announced by the instructor.

- Tools. Return all tools and/or software to their designated place.

- 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 Navigating Cisco Website Course Introduction	https://cisco.netacad.net
Week 2	Chapter 1: Exploring the Network	pp. 1-58
Week 3	Chapter 2: Configuring a Network Operating System	pp. 59-114
Week 4	Chapter 3: Network Protocols and Communications Chapter 4: Network Access	pp. 115-160 pp. 161-230
Week 5	Chapter 4: Network Access Chapter 5: Ethernet	pp. 161-230 pp. 231-282
Week 6	Chapter 5: Ethernet Chapter 6: Network Layer	pp. 231-282 pp. 283-340
Week 7	Chapter 7: Transport Layer	pp. 341-390
Week 8	Chapter 8: IP Addressing	pp. 391-464
Week 9	Chapter 8: IP Addressing	pp. 391-464
Week 10	Chapter 8: IP Addressing	pp. 391-464
Week 11	Chapter 9: Subnetting IP Networks	pp. 465-514
Week 12	Chapter 9: Subnetting IP Networks	pp. 465-514
Week 13	Chapter 9: Subnetting IP Networks	pp. 465-514
Week 14	Chapter 10: Application Layer	pp. 515-550
Week 15	Chapter 11: It's a Network	pp. 551-626
Week 16	Final Exam	https://cisco.netacad.net

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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.