



# NEW YORK CITY COLLEGE OF TECHNOLOGY

THE CITY UNIVERSITY OF NEW YORK

Department of Computer Engineering Technology

300 Jay Street, Brooklyn, NY 11201-1909

## CET4773: Internetworking Technology

# Syllabus

## General Information

**Instructor:** Prof. Benito Mendoza

**Lecture:** Wednesday 2:30pm - 5:00pm

**Lab:** Friday 2:30pm - 5:00pm

**Office:** V6145:00pm

**Office hours:** Wednesday 12:00- 1:00, Friday 10:00-11:00, or by appointment.

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**Phone:** 718-260-5885

**Website:** <http://openlab.citytech.cuny.edu/members/bmendoza/>

**Prerequisite:** CET3510

**Additional Suggester Reference Book:**

- [Wendell Odom \(2013\). CCENT/CCNA ICND1 100-101 Official Cert Guide. Cisco Press.](#)

## Required Material



**LabSim Title:** CCNA  
(Certified Cisco Network Associate)  
**Exam#:** 200-120  
**ISBN#:** 978-1-935080-49-7

## Course Overview

This course covers technologies, protocols, and techniques used to connect a computer network with other networks through the use of gateways that provide a common method of routing information packets between the networks. Internetworking technology allows computing devices to other internal and external devices, components or systems. Topics include Local Area Networks (LAN) and Wide Area Networks (WAN) implementation, wireless networks implementation, network security, advanced switching and routing configuration, advanced TCP/IP configuration, and network management. In particular, this semester will focus on the content required to obtain the CCENT/CCNA ICND1 certification from CISCO. NOTE: This course was formerly known as **Microcomputer Interfacing**.

## Course Learning Outcomes

Upon completing this course, the learner will be able to meet these overall objectives:

- Describe how networks function, identifying major components, function of network components, and the OSI reference model
- Using the host-to-host packet delivery process, describe issues related to increasing traffic on an Ethernet LAN and identify switched LAN technology solutions to Ethernet networking issues
- Describe the reasons for extending the reach of a LAN and the methods that can be used, with a focus on RF wireless access
- Describe the reasons for connecting networks with routers and how routed networks transmit data through networks using TCP / IP
- Describe the function of WANs, the major devices of WANs, and configure PPP encapsulation, static and dynamic routing, PAT, and RIP routing
- Use the command-line interface to discover neighbors on the network and manage the router start up and configuration

## About the ICND1 Exam

Interconnecting Cisco Networking Devices Part 1 (ICND1) focuses on providing the skills and knowledge necessary to implement and support a small switched and routed network. For the purpose of this course, a small network is defined as 1 to 20 hosts connected to a single switch. The switch is also connected to a router providing a routed link (Routing Information Protocol [RIP] and default) to a simulated Internet and corporate office. ICND1 works from the bottom up, providing knowledge and skills as they are needed. The course starts with an introduction to networks. It then introduces host-to-host communications using TCP / IP. Next, Layer 2 devices (switches) are introduced into the network. Next, Layer 3 devices (routers) are introduced into the network. The introduction of Layer 3 devices leads to the use of WANs and routing to connect the site to the Internet and corporate sites.

## Prerequisites

The knowledge and skills that a learner must have before attending this course are as follows:

- Basic computer literacy
- Basic Networking commands (Windows and Linux)
- Basic Microsoft Windows navigation skills
- Basic Internet usage skills
- Basic e-mail usage skills

## Grading

**Online home assignments: 40%**

- Quizzes: 20%
- Labs: 20%

**In-class assignments, labs, and exams: 60%**

- In-class Quizzes: 10%
- Networking Labs: 15%
- Cisco CCENT Mind Share Game: 15%
- Mid Term Exam: 10%
- Final Exam: 10%

## Reading Assignments

- There will be a take home reading assignments every week. The reading assignments will be evaluated with the corresponding online take home quizzes and labs (From TestOut LabSim).
- The student can answer the quiz with open notes at home. Every quiz has to be completed by Thursday night. The minimum pass grade is 80. The student has as many as needed attempts to pass the quiz. The system will take the average score from those attempts as final grade for the quiz.
- **The online labs have to be successfully completed in order to have access to the labs in the classroom.**
- **You have to pass all the quizzes to have opportunity to take the Mid Term and the Final Exam; the minimum pass grade of those quizzes is 80%,.**
- **If for any reason you miss a class, it is your responsibility to complete the corresponding the online reading assignments, quizzes and labs.**

## In-class Exams

- The Mid Term exam will cover modules 1 to 7 from LabSim CCNA training material
- The final exam will be a practice test covering all the content expected in a real ICDN1 exam.

## In-class Networking Lab Assignments

The in-class laboratory work has to be completed in the classroom time. No late submissions. Lab assignments are graded on a scale from 0 to 3 according to the following criteria:

Criteria	Grade
<b>Successfully completed the lab assignment</b>	100
<b>Made a legitimate attempt to complete the lab assignment</b>	75
<b>Attended the lab, but made no effort to complete the assignment</b>	30
<b>Did not attend the lab</b>	0

## Cisco CENT Mind Share Game Assignments:

Cisco's CENT Mind Share is a video game to practice for the CCNA/CENT certification. Every week students will play for 50 minutes. In this time the student should try to get a gold medal in the hard level. The corresponding grade for the students' attempt would be:

Level\Medal	Bronze	Silver	Gold
Easy	60pts	65pts	70pts
Medium	75pts	80pts	85pts
Hard	90pts	95pts	100pts

## Technology Prerequisites

1. You must register for the CUNY Portal, <http://www.cuny.edu>
2. You must enter your current/correct email address in Blackboard
3. You must have access to and be able to use the Netscape and/or Internet Explorer browsers versions 4.0 or above.
4. You will need an email account and must be comfortable using it.
5. You need access to a computer with at least 1GB RAM and an Internet connection (preferably high speed Internet).

## Notes

1. The instructor reserves the right to modify this outline anytime.
2. Computer knowledge will be strongly emphasized, therefore spend time in learning how to use Microsoft and Linux Operating Systems. (More instructions will be provided when appropriate)