

# CCNA1&2: Networking and Routing Basics

## Course Outcome Summary

### Course Information

<b>Organization</b>	Madison Area Technical College
<b>Developers</b>	Mike Masino; Nina Milbauer
<b>Development Date</b>	8/13/2004
<b>Course Number</b>	10-150-170
<b>Instructional Level</b>	Associate Degree
<b>Potential Hours of Instruction</b>	72
<b>Total Credits</b>	4

### Description

Introduction to Networking basics with a focus on network terminology, protocols, local area networks (LANs), wide area networks (WANs), Open System Interconnection (OSI) model, cabling, routers and router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. The student will develop skills on configuring a router, using the Cisco IOS Software, configuring routing protocols, and configuring Access Control Lists (ACLs) to control access to the router. NOTE: Must take 10 150 173 CCNA3 and 10-150-174 CCNA4 within one year of completion of 10 150 170 CCNA1&2.

### Types of Instruction

Instruction Type	Contact Hours	Credits
On-Campus Lab	36	2
Classroom Presentation	36	2

### Textbooks

Cisco Systems. *CCNA 1: Networking Basics (Online Curriculum)*. Cisco Systems. **Source:** Cisco.netacad.net.

Cisco Systems. *CCNA 2: Routers and Routing Basics (Online Curriculum)*. Cisco Systems. **Source:** cisco.netacad.net.

Wendell Odom. *CCNA INTRO Exam Certification Guide*. Cisco Press. 2004 Cisco Systems. **Edition:** First. **Pages:** 608. **ISBN:** 1-58720-094-5. **Source:** MATC Bookstore.

### Learner Supplies

Engineering Journal . **Quantity:** 1.

### Competencies

- A. Acquire a basic Introduction to networking**  
**You will demonstrate your competence:**
- A.1. by participating in the class
  - A.2. by completing lab manual assignment
  - A.3. on a written evaluation
  - A.4. using a business scenario
- B. Study Networking Fundamentals**  
**You will demonstrate your competence:**
- B.1. by participating in the class
  - B.2. by completing lab manual assignment

- B.3. on a written evaluation
- B.4. using a business scenario

**C. Examine Networking Media**

**You will demonstrate your competence:**

- C.1. by participating in the class
- C.2. by completing lab manual assignment
- C.3. on a written evaluation
- C.4. using a business scenario

**D. Examine Cable Testing**

**You will demonstrate your competence:**

- D.1. by participating in the class
- D.2. by completing lab manual assignment
- D.3. on a written evaluation
- D.4. using a business scenario

**E. Investigate Cabling of LAN's & WAN's**

**You will demonstrate your competence:**

- E.1. by participating in the class
- E.2. by completing lab manual assignment
- E.3. on a written evaluation
- E.4. using a business scenario

**F. Explore Ethernet Technologies**

**You will demonstrate your competence:**

- F.1. by participating in the class
- F.2. by completing lab manual assignment
- F.3. on a written evaluation
- F.4. using a business scenario

**G. Explore Ethernet Fundamentals**

**You will demonstrate your competence:**

- G.1. by participating in the class
- G.2. by completing lab manual assignment
- G.3. on a written evaluation
- G.4. using a business scenario

**H. Examine Ethernet Switching**

**You will demonstrate your competence:**

- H.1. by participating in the class
- H.2. by completing lab manual assignment
- H.3. on a written evaluation
- H.4. using a business scenario

**I. Explore the TCP/IP protocol suite and IP addressing**

**You will demonstrate your competence:**

- I.1. by participating in the class
- I.2. by completing lab manual assignment
- I.3. on a written evaluation
- I.4. using a business scenario

**J. Investigate Routing Fundamentals and Subnets**

**You will demonstrate your competence:**

- J.1. by participating in the class
- J.2. by completing lab manual assignment

J.3. on a written evaluation

J.4. using a business scenario

**K. Examine TCP/IP transport and application layers**

**You will demonstrate your competence:**

K.1. by participating in the class

K.2. by completing lab manual assignment

K.3. on a written evaluation

K.4. using a business scenario

**L. Investigate WAN's and Routers**

**You will demonstrate your competence:**

L.1. by participating in the class

L.2. by completing lab manual assignment

L.3. on a written evaluation

L.4. using a business scenario

**M. Explore Routers**

**You will demonstrate your competence:**

M.1. by participating in the class

M.2. by completing lab manual assignment

M.3. on a written evaluation

M.4. using a business scenario

**N. Complete a Router Configuration**

**You will demonstrate your competence:**

N.1. by participating in the class

N.2. by completing lab manual assignment

N.3. on a written evaluation

N.4. using a business scenario

**O. Audit other devices**

**You will demonstrate your competence:**

O.1. by participating in the class

O.2. by completing lab manual assignment

O.3. on a written evaluation

O.4. using a business scenario

**P. Explore management of the Cisco IOS Software**

**You will demonstrate your competence:**

P.1. by participating in the class

P.2. by completing lab manual assignment

P.3. on a written evaluation

P.4. using a business scenario

**Q. Investigate Routing and Routed Protocols**

**You will demonstrate your competence:**

Q.1. by participating in the class

Q.2. by completing lab manual assignment

Q.3. on a written evaluation

Q.4. using a business scenario

**R. Examine Distance Vector Routing Protocols**

**You will demonstrate your competence:**

R.1. by participating in the class

R.2. by completing lab manual assignment

- R.3. on a written evaluation
- R.4. using a business scenario

**S. Investigate the TCP/IP Suite Error and Control messages**

**You will demonstrate your competence:**

- S.1. by participating in the class
- S.2. by completing lab manual assignment
- S.3. on a written evaluation
- S.4. using a business scenario

**T. Demonstrate Basic Router trouble shooting**

**You will demonstrate your competence:**

- T.1. by participating in the class
- T.2. by completing lab manual assignment
- T.3. on a written evaluation
- T.4. using a business scenario

**U. Explore Intermediate TCP/IP**

**You will demonstrate your competence:**

- U.1. by participating in the class
- U.2. by completing lab manual assignment
- U.3. on a written evaluation
- U.4. using a business scenario

**V. Examine Access Control Lists (ACLs)**

**You will demonstrate your competence:**

- V.1. by participating in the class
- V.2. by completing lab manual assignment
- V.3. on a written evaluation
- V.4. using a business scenario