



# CCNA 1—Networking Basics

During the Cisco® Networking Academy® CCNA 1 course administered by the undersigned instructor, the student was able to proficiently:

- Define and install the hardware and software required to be able to communicate across a network
- Demonstrate the mathematical skills required to work effortlessly with integer decimal, binary, and hexadecimal numbers and simple binary logic
- Define and describe the structure and technologies of computer networks
- Describe the meaning and application of the term "bandwidth" when used in networking
- Describe, compare, and contrast network communications using two examples of layered models
- Describe the physical, electrical, and mechanical properties and the standards associated with copper and optical media used in networks
- Describe what is required to install a simple WLAN
- Explain the issues associated with the transmission of signals on networking media
- Describe the topologies and physical issues associated with cabling common LANs
- Describe the physical issues associated with cabling networking equipment to work over a WAN link
- Explain the fundamental concepts associated with the Ethernet media access technique
- Explain how collisions are detected and the concepts associated with autonegotiation on an Ethernet system
- Define and describe the structure and technologies of computer networking systems
- Describe networking topologies and physical issues associated with cabling common LANs
- Describe the principles and practice of switching on an Ethernet network
- Describe how the protocols associated with TCP/IP allow host communication to occur
- Explain and demonstrate the mechanics associated with IP addressing
- Describe how an IP address is associated with a device interface and the association between physical and logical addressing
- Describe the principles and practice of packet switching using the Internet Protocol (IP)
- Describe the concepts associated with routing and the different methods and protocols used to achieve it
- Describe the fundamental concepts associated with transport layer protocols and compare the connectionless approach to transport with the connection-oriented one
- List the major TCP/IP application protocols and briefly define their features and operation

**IUT ANNECY**  
Département R & T  
B.P. 240  
9, rue de l'Arc-en-Ciel  
74942 ANNECY-LE-VIEUX Cedex  
Tél. 04.50.09.23.90  
Fax : 04.50.09.22.64

**Bruno LESIEUR**

Students Name

June 21, 2007

Date

Coquin, Didier

Instructor

**IUT d'Annecy -  
Université de Savoie**  
Academy Member

Annecy-le-vieux

Location

Instructor's Signature



# CCNA 2—Router and Routing Basics

During the Cisco® Networking Academy® CCNA 2 course administered by the undersigned instructor, the student was able to proficiently:

- Identify the important characteristics of common WAN configurations and technologies, differentiate between these and common LAN technologies, and describe the role of a router in a WAN
- Identify the major internal and external components of a router and describe the associated functionality
- Properly connect router Fast Ethernet, Serial WAN, and console ports
- Describe the purpose and fundamental operation of the router operating system (IOS®)
- Establish communication between a terminal device and the router operating system (IOS) and use it for system analysis, configuration, and repairs
- Perform, save and test an initial configuration on a router
- Configure additional administrative functionality on a router
- Use embedded data-link layer functionality to perform network neighbor discovery and analysis from the router console
- Use embedded Layer 3 through Layer 7 protocols to establish, test, suspend, or disconnect connectivity to remote devices from the router console
- Identify the stages of the router boot-up sequence and show how the configuration-register and boot system commands modify that sequence
- Manage system image and device configuration files
- Identify, configure, and verify the use of static and default routes
- Evaluate the characteristics of routing protocols
- Identify, analyze, and show how to rectify inherent problems associated with distance vector routing protocols
- Configure, verify, analyze, and troubleshoot simple distance vector routing protocols
- Describe the operation of ICMP and identify the reasons, types, and format of associated error and control messages
- Use embedded Layer 3 through Layer 7 protocols to establish, test, suspend, or disconnect connectivity to remote devices from the router console
- Use the commands incorporated within Cisco IOS Software to analyze and rectify network problems
- Describe the operation of the major transport layer protocols and the interaction and transportation of application layer data
- Identify the application of packet control with various access control lists
- Analyze, configure, implement, verify, and rectify access control lists within a router configuration

**Bruno LESIEUR**

Student's Name

**March 20, 2008**

Date

**Roussel, Alain**

Instructor

**IUT d'Annecy - Université de Savoie**

Academy Name

**Annecy-le-Vieux**

Location

**IUT ANNECY**

Département R & T

B.P. 240

9, rue de l'Arc-en-Ciel

74124 ANNECY-LE-VIEUX Cedex

Tel. 04.50.09.23.00

Fax : 04.50.09.22.64