

# Computer Networking/Cisco CCNA Certification

Fayetteville State University, Dept of Math & Computer Science

## Course Description

The CCNA certification (Cisco Certificate Network Associate) indicates a professional's knowledge in basic networking. CCNA certified professionals can install, configure, operate, and troubleshoot medium-sized Local Area Networks (LAN) and Wide Area Networks (WAN). The curriculum includes the use of these protocols: IP, RIP, RIPv2, EIGRP, OSPF, VLAN, VTP, STP, PPP, Frame Relay, Access Lists, NAT, PAT, DHCP, and VPN.

The Cisco CCNA certification curriculum we offered includes four courses that prepare students for the most current CCNA exams:

- 640-802 CCNA **Or**
- [640-822 ICND1](#) & [640-816 ICND2](#): Interconnecting Cisco Networking Devices Part 1 & Part 2

In this program, students practice networking with hands-on activities by using modern Cisco Network equipment and e-labs. All courses include online assessments that allow students to measure their progress throughout the learning practice. Students develop the skills necessary to administer a network in a working environment and prepare for the Cisco CCNA examination.

## Network Basics (CSC 270)

*Network Basics* presents important networking fundamentals including the Open System Interconnect (OSI) seven-layer model concepts; subnetting and cabling networks; Cisco IOS basics. Terminology and technologies are explained and illustrated using text and graphics animation.

*Prerequisites:* Basic computer knowledge

## Routing Protocols (CSC 371)

*Routing Protocols* describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Students complete a basic procedural lab, followed by basic configuration, implementation, and troubleshooting labs in each chapter.

*Prerequisites:* Network Basics (CSC 270)

## LAN Switching & Wireless (CSC 372)

*LAN Switching and Wireless* explains how to configure a switch for basic functionality and how to implement VLANs, VTP, and inter-VLAN routing in a converged network. The different implementations of Spanning Tree Protocol in a converged network are presented. Students complete a basic procedural lab, followed by basic configuration, implementation, and troubleshooting labs in each chapter. Students develop the knowledge and skills necessary to implement a WLAN in a small-to medium network.

*Prerequisites:* Network Basics (CSC 270)

## Intro to WAN (CSC 380)

*Intro to WAN* covers various protocols and technologies used in a wide-area network. Students learn how to implement and configure common data link protocols and how to apply WAN security concepts, principals of traffic, access control, and addressing services to enterprise network. The course covers these protocols: PPP, Frame Relay, VPN, DHCP, NAT, and ACLs.

*Prerequisites:* Routing Protocols and LAN Switching & Wireless (CSC 371 & CSC 372)

## Why Cisco Certifications?

- Cisco certified professionals are among the highest paid in the world.
- According to Certification Magazine Salary Survey 2008, a networking professional with a CCNA certification earned an average salary \$80,890 (certMag.com).
- Cisco certification gives you respect in the IT industry and in any organization you work for.
- Cisco certification validates your professional credibility and technical expertise
- Students enrolled in the curriculum are highly favored by our school's ITTS for paid on-campus student jobs

## Condensed Curriculum

We also plan to offer a condensed curriculum for non-traditional students:

- CCNA 1 and CCNA 2 (16 weeks)
- CCNA 3 and CCNA 4 (16 weeks)