



## **CISCO CERTIFIED NETWORK ASSOCIATE – CCNA (New Tracks)**

### **Who can do?**

- Fresh University Graduates and like to develop their Career In CISCO
- Already working class who are willing to update and learn the new methodologies of CISCO and would like to get the certification of CISCO first step CCNA
- Managers, Professionals, Network Engineers and Managers can also join, to learn the CISCO with the high tech professionals who have the extensive experience of Telecom sector at abroad.

**100,000+ Students  
have been Trained**

**since  
1997**

**Program is  
offered by**

**3D EDUCATORS  
INTL**  
22 Years of  
Excellence in  
Training &  
Development

**Invest in  
People the  
only Asset  
that Appreciates**



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# CCNA Training Program

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## CCNA Training Program

# Program Details

## About the Program Instructor

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### Inauguration

The Training Program will be inaugurated by a senior member of 3D EDUCATORS

### Program Structure

No of classes per week	<b>01 Class</b>
Duration of each class	<b>2 – Hour</b>
Duration of Course	<b>3 Months</b>

### Other Learning Activities

Classroom LABS	<b>8</b>
Presentations by Trainees	<b>1</b>

## In Affiliation with





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## CCNA Training Program

# Program Syllabus

### THE PATH TO CCNA CERTIFICATION:

#### CCNA TRAINING

The Introduction to Cisco Networking Technologies (INTRO) and the Interconnecting Cisco Networking Devices (ICND) courses prepare candidates for the CCNA certification. Candidates may choose to take a single CCNA exam (640-802) to pass or they may pursue the two-exam approach by taking the INTRO (640-822) exam and ICND (640-816) to complete the certifications

#### Required Exam(s) Recommended Training

640-802 CCNA Interconnecting Cisco Networking Devices Part 1 (ICND1)  
Interconnecting Cisco Networking Devices Part 2 (ICND2)

OR

640-822 ICND1 Interconnecting Cisco Networking Devices Part 1 (ICND1)  
640-816 ICND2 Interconnecting Cisco Networking Devices Part 2 (ICND2)

#### CCNA

The CCNA certification (Cisco Certified Network Associate) indicates a foundation in and apprentice knowledge of networking. CCNA certified professionals can install, configure and operate LAN, WAN, and dial access services.



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# CCNA Training Program

## Describe how a network works

- Describe the purpose and function of various network and devices
- Select the components required to meet a network specification
- Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network
- Describe common networked applications including web applications
- Describe the purpose and basic operation of the protocols in the OSI and TCP models
- Describe the impact of applications (Voice Over IP and Video Over IP) on a network
- Interpret network diagrams
- Determine the path between two hosts across a network
- Describe the components required for network and Internet communications
- Identify and correct common network problems at layers 1, 2, 3 and 7 using a layered model approach
- Differentiate between LAN/WAN operation and features

## Configure, verify and troubleshoot a switch with VLANs and interswitch communications

- Explain the technology and media access control method for Ethernet networks
- Explain network segmentation and basic traffic management concepts
- Explain basic switching concepts and the operation of Cisco switches
- Perform and verify initial switch configuration tasks including remote access management
- Verify network status and switch operation using basic utilities (including: ping, traceroute, telnet, SSH, arp, ipconfig), SHOW & DEBUG commands
- Identify, prescribe, and resolve common switched network media issues, configuration issues, auto negotiation, and switch hardware failures
- Describe enhanced switching technologies (including: VTP, RSTP, VLAN, PVSTP, 802.1q)
- Describe how VLANs create logically separate networks and the need for routing between them
- Configure, verify, and troubleshoot VLANs
- Configure, verify, and troubleshoot trunking on Cisco switches
- Configure, verify, and troubleshoot interVLAN routing



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- Configure, verify, and troubleshoot VTP
- Configure, verify, and troubleshoot RSTP operation
- Interpret the output of various show and debug commands to verify the operational status of a Cisco switched network.
- Implement basic switch security (including: port security, trunk access, management vlan other than vlan1, etc.)
- Select the appropriate media, cables, ports, and connectors to connect switches to other network devices and hosts

**Implement an IP addressing scheme and IP Services to meet network requirements in a medium-size Enterprise branch office network.**

### • Describe the operation and benefits of using private and public IP addressing

- Explain the operation and benefits of using DHCP and DNS
- Configure, verify and troubleshoot DHCP and DNS operation on a router.(including: CLI/SDM)
- Implement static and dynamic addressing services for hosts in a LAN environment
- Calculate and apply an addressing scheme including VLSM IP addressing design to a network
- Determine the appropriate classless addressing scheme using VLSM and summarization to satisfy addressing requirements in a LAN/WAN environment
- Describe the technological requirements for running IPv6 in conjunction with IPv4 (including: protocols, dual stack, tunneling, etc).
- Describe IPv6 addresses
- Identify and correct common problems associated with IP addressing and host configurations



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### Configure, verify, and troubleshoot basic router operation and routing on Cisco device

- Describe basic routing concepts (including: packet forwarding, router lookup process)
- Describe the operation of Cisco routers (including: router bootup process, POST, router components)
- Select the appropriate media, cables, ports, and connectors to connect routers to other network devices and hosts
- Configure, verify, and troubleshoot RIPv2
- Access and utilize the router to set basic parameters.(including: CLI/SDM)
- Connect, configure, and verify operation status of a device interface
- Verify device configuration and network connectivity using ping, traceroute, telnet, SSH or other utilities
- Perform and verify routing configuration tasks for a static or default route given specific routing requirements
- Manage IOS configuration files. (Including: save, edit, upgrade, restore)
- Manage Cisco IOS.
- Compare and contrast methods of routing and routing protocols
- Configure, verify, and troubleshoot OSPF
- Configure, verify, and troubleshoot EIGRP
- Verify network connectivity (including: using ping, traceroute, and telnet or SSH)
- Troubleshoot routing issues
- Verify router hardware and software operation using SHOW & DEBUG commands.
- Implement basic router security

### Explain and select the appropriate administrative tasks required for a WLA

- Describe standards associated with wireless media (including: IEEE WI-FI Alliance, ITU/FCC)
- Identify and describe the purpose of the components in a small wireless network. (Including: SSID, BSS, ESS)
- Identify the basic parameters to configure on a wireless network to ensure that devices connect to the correct access point



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- Compare and contrast wireless security features and capabilities of WPA security (including: open, WEP, WPA-1/2)
- Identify common issues with implementing wireless networks. (Including: Interface, misconfiguration)

### Identify security threats to a network and describe general methods to mitigate those threats

- Describe today's increasing network security threats and explain the need to implement a comprehensive security policy to mitigate the threats
- Explain general methods to mitigate common security threats to network devices, hosts, and applications
- Describe the functions of common security appliances and applications
- Describe security recommended practices including initial steps to secure network devices

### Implement, verify, and troubleshoot NAT and ACLs in a medium-size Enterprise branch office network.

- Describe the purpose and types of ACLs
- Configure and apply ACLs based on network filtering requirements.(including: CLI/SDM)
- Configure and apply an ACLs to limit telnet and SSH access to the router using (including: SDM/CLI)
- Verify and monitor ACLs in a network environment
- Troubleshoot ACL issues
- Explain the basic operation of NAT
- Configure NAT for given network requirements using (including: CLI/SDM)
- Troubleshoot NAT issues





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### Implement and verify WAN links

- Describe different methods for connecting to a WAN
- Configure and verify a basic WAN serial connection
- Configure and verify Frame Relay on Cisco routers
- Troubleshoot WAN implementation issues
- Describe VPN technology (including: importance, benefits, role, impact, components)



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## CCNA Training Program

### **Terms & Conditions**

#### **WITHDRAWAL FROM THE DIPLOMA/CERTIFICATION**

Students are not allowed to withdraw from the Diploma. If a student cannot continue the Diploma his/her fee will be forfeited.

#### **CONDUCT AND DISCIPLINE**

A disciplinary action, leading to rustication, will be taken against students whose conduct is found objectionable at any time during the course of study. Reference will be made to 3D Educators code of conduct.

#### **EVALUATION AND GRADING**

The performance of students is evaluated through continuous observation of a student's performance in the Diploma – class participation, submission of assignments, quizzes and exercises.



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The student will be examined through three hourly exams conducted at the midterm and a final exam at the end of the program. Total marks for passing the Diploma will be 60 out of a total of 100.

Students who do not meet the attendance or any other eligibility criteria will not be allowed to appear in the final examination.

The following grading plan will be applicable for the Diploma:

<b>A</b>	<b>87 - 100</b>
<b>B+</b>	<b>81 -86</b>
<b>B</b>	<b>72 - 80</b>
<b>C+</b>	<b>66 - 71</b>
<b>C</b>	<b>60 - 65</b>
<b>F</b>	<b>below 60</b>



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Students who are unable to appear for the final exam are required to submit a written application stating the reason for not appearing for the exam. 3D Educators reserves the right to approve or deny such applications. If approved, the student will be allowed to sit for the exam within one month. Failure to do so, the student will be resubmit the examination fee and sit the future schedule exam. Without passing of the exams no certification will be awarded.

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## ONLINE LIVE CLASSES FACILITY AVAILABLE

- Instructor Led Training
- Real Time Presentations
- Interactive Classes
- Complete Notes and Other Stuff shall be provided through our Secure Student Login Member's Area
- For Online Live Classes, you may please download the Admission Form through our website <http://www.3deducators.com>. Fill it properly and attached the required document along with Picture and send back to [info@3deducators.com](mailto:info@3deducators.com) with scanned fee submitted voucher in the bank.
- For Pakistan you may submit the fee at any MCB Branch with the title of "3D EDUCATORS-TRAINERS & CONSULTANTS".
- If you are outside Pakistan then you may transfer via Bank to Bank or any western union, Fast Track, Money Gram or else International Transfer Body.
- After Admission, if you don't have GMAIL Account then you are requested to kindly make one GMAIL Account and shared it [info@3deducators.com](mailto:info@3deducators.com). Then further correspondence shall be made by our institute official.
- Extra Bandwidth Charges shall be incurred.

## DISTANCE NOT MATTER

You can join in the live classes Sessions of 3D EDUCATORS – TRAINERS & CONSULTANTS from anywhere of the world.

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## PRECAUTIONARY MEASURES

- During Classes, you are requested to make sure that you are in isolated room, where no noise should be there except your voice.
- Kindly Switch Off your Cell Phone during the class, because it will disturb the quorum of class.
- If you have taken the admission in the course online lonely, then ethically it is recommended and suggested that you alone in the class.
- Recording of Lectures are not allowed at your end.

This world is emerging and growing in the 21st Century very rapidly because of latest and remarkable technologies and its advancement. Due to advancement of technology, we 3D EDUCATORS offer Live Interactive class sessions

3D EDUCATORS believe on Information Technology and its systems. Now you can also avail this facility at your home.

## CONTACT US

021-34141329, 0333-2402474  
021-34857148

info@3deducators.com  
<http://www.3deducators.com>

Get the Admission Form

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## CCNA Training Program

### SAMPLE CERTIFICATE



# CERTIFICATE

*Invest In People the Only Asset that Appreciates...*

*The Certificate Witnesseth that*

*Dr. Muhammad Allama Iqbal*

*Has Successfully Completed the 32-Hours Training of the*

**CISCO Certified Network Associate - CCNA**

**Conducted By**

**3D EDUCATORS - TRAINERS & CONSULTANTS**

**From 22 Nov 2009 To 22 Jan 2010**

**CERTIFICATE ID: 3DCIA1010/5/2003093**



Principal of Institute

Global Partner - International Management Research & Technology Consortium - IMRTC USA

Global Partner - PECB CANADA, Partner Institute of SDC - Government of Pakistan