

<b>Course Title:</b>	<b>CCNA 1: Network Fundamentals</b>
<b>Duration:</b>	Ten (10) Days
<b>Class Schedule:</b>	9:00am to 5:00pm
<b>Target Participants:</b>	Government and Private I.T. Personnel, Members of the Academe and College Graduates of Computer Science and I.T. related courses.
<b>Total Hours:</b>	70 Hours.
<b>Course Description:</b>	This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Labs use a “model internet” to allow students to analyze real data without affecting production networks. Packet tracer (PT) activities help students analyze protocol and network operation and build small networks in a simulated environment. At the end of the course, students build simple LAN topologies by applying basic principles of cabling; performing basic configurations of network devices, including routers and switches; and implementing IP addressing schemes.

**Course Contents:**

- What are networks?
- Quality of service (QoS)
- Security
- Communications with Data Networks and the Internet
- Network models
- Protocols
- OSI Application Layer
- OSI Transport Layer
- OSI Network Layer and Routing
- Addressing the Network
- IPv4
- Overview of IPv6
- Subnetting
- Testing the network layer
- OSI Data Link Layer
- Media Access Control
- OSI Physical Layer
- LAN Technology
- Ethernet



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- Address Resolution Protocol (ARP)
- Shared versus dedicated Ethernet
- Planning and Cabling Your Network
- Network Diagrams
- Configuring and Testing Your Network
- Configuring Cisco devices
- Cisco IOS basics
- Applying a basic configuration using IOS
- Host configuration
- Verifying connectivity
- Monitoring and documenting networks

