

**Network yourself with Network 5. Take control because  
you cannot afford to stay disconnected  
in this highly connected world.**



**Network | 5**<sup>TM</sup>

<http://www.eccouncil.org>

**EC-Council**



Technology today is 'networked' – even in the literal sense. Networks have become an integral part of mundane existence. It is inconceivable to think of communications exclusive of networks. Network 5 serves to expose the learner to basic networking concepts.

Organizations employ network and system administrators to cater to its networking needs. However, today's knowledge workers are increasingly called upon to become self reliant and competent to deal with routine operational tasks. Contemporary job profiles seek greater knowledge and productivity factors from the average office user.

There is a felt need for knowledge workers to bring more to the work place than just functional domain expertise. A certain degree of technical proficiency is perceived to contribute more to the workplace in terms of better productivity and higher efficiency. There is better communication, lesser support downtimes and network lapses within the organization and hence greater cost savings and profits.

Do these employees need to know how to configure a routing table or open the shortest path? No.

What these knowledge workers of today need to herald in an integrated environment is the 'Alphabet Soup of Networking' – the basic core knowledge to know how infrastructure enables a work environment. They need to be trained into the support system that the network administrators and telecommunications engineers can count upon to effect a seamless and effectively networked environment.

Network 5 is not meant for office goers alone. The average home user who wants to optimize resource utilization, share infrastructure and make the best of technology and convenience is a candidate as well. The student who needs to find an economical balance for networked resources and to make the most of the Internet is a potential Network 5 user.

If you are somebody who banks online, accesses work online, travels extensively and yet stay connected, logs onto wireless networks, subscribe to a broadband connection or use a computer system at work /home, you need to have Network 5 to help you stay abreast in this networked world.

Network yourself with Network 5. Take control because you cannot afford to stay disconnected in this highly connected world.

# Network | 5 Course Outline

## 1. Foundations of network:

- What is a network?
- Need for a network
- Client workstation and server
- Different network models
  - Peer to peer
  - Client/server
  - Mainframe
- Types of network
  - LAN
  - WAN
  - MAN
- Various network topologies
  - Ring
  - Mesh
  - Star
  - Tree Bus
  - Linear Bus

## 2. Networking components

- Introduction to network components
  - Repeaters
  - Hubs
  - Bridges
  - Router

- Switch
- Gateway
- Brouter
- Types of networking cables
- Media connectors
- How to choose on a cable

### **3. LAN technologies**

- Ethernet
- Physical characteristics
- Different categories in Ethernet
- Baseband and broadband properties
- Baseband Ethernet
- Broadband Ethernet
- Ethernet cables
  - Twisted pair
  - Coaxial
  - Fiber optic
- Other types of Ethernet LAN
  - Switched
  - Fast
  - Gigabit
- Virtual Private Network
- Benefits of using a VPN
- Connecting to a VPN using Windows 2000

### **4. Basic hardware components**

- Basic hardware components

- Installing CPU
- Installing motherboard
- Configuring motherboard
- Installing power supply
- Installing a hard drive
- Installing floppy and CD/DVD drives
- Legacy devices
  - Interrupt Requests Line Assignments
  - Direct Memory Access (DMA)
  - Input/Output (I/O) Address
- Configuring IDE/ATA/SCSI devices
- Basic know how of safe BIOS settings
- Complementary Metal Oxide Conductor (CMOS)
- Understanding ports
- Data cables
- Connector
- Detecting hardware devices
- Using Device Manager

## **5. Network connectivity**

- Setting up a small network
- Connecting computers
- IP addressing
- Assigning IP address
- Adding computers to a group
- Network service
  - DHCP
  - WINS

- DNS
- Deciding on a network architecture
- Internet access technology
  - xDSL
  - Broadband cable (Cable modem)
  - Wireless
  - Dial-up connection
- Make a dial-up connection
- What is file sharing?
- Types of file sharing
- How to share a folder?
- Configuring share folder permissions

## **6. Wireless network**

- Introduction to wireless networks
- Basics
- Types of wireless networks
  - WLAN
  - WPAN
  - WMAN
  - WWAN
- Requirements for wireless network
- Antennas
- SSID
- Access point positioning
- What is Wired Equivalent Privacy(WEP) ?
- Setting up a wireless network
- How to access a WLAN?

- Advantage and disadvantage of wireless network

## **7. Networking environment**

- Introduction to Intranet
- Difference between Internet and Intranet
- Advantages of Intranet
- How Intranet operates?
- Inside an Intranet
- Checklist for building an Intranet
- Introduction to Extranet
- Difference between Internet and Extranet
- Advantages of an Extranet
- How an Extranet operates?
- Difference between Extranet and Intranet

## **8. Troubleshooting**

- Hardware errors and their codes
- Troubleshooting guidelines
- Troubleshooting:
  - Network connectivity
- Testing network connectivity
  - Motherboard failures
- Response
  - CPU failure
  - Power supply failure
  - Video/display failure
  - Memory chip failure
  - CD ROM failure