Cybersecurity Fundamentals

The Cybersecurity Fundamentals course is designed to provide a comprehensive understanding of the fundamental concepts and practical skills required to start a career in Cybersecurity. This program is ideal for individuals aspiring to become Cybersecurity Professionals, equipping them with the knowledge and hands-on experience required to pursue Advanced Cybersecurity Course.

Key Topics:

- IP Addressing, Network Devices, and Packet Analysis
- Operating Systems (Windows, Unix/Linux)
- Troubleshooting network problems

Module 1: Introduction to Cybersecurity
- What is Cybersecurity
- Understanding the cybersecurity terminology
- Components of Cybersecurity
  - Networking
  - Server administration
  - Security Operations Center

Module 2: Fundamentals of Networking
- Introduction to Networking
- Understanding Networks and Networking
- Types of Networks: LAN, MAN, WAN, and Internet
- Network Topologies: Bus, Ring, Star, and Mesh
- ·Essential Network Components: NIC Cards, MAC Addresses, Media, and Devices (Hubs, Switches, Routers, Firewalls)
- OSI Reference Model and TCP/IP Model

Module 3: Basics of Operating Systems
- Introduction to Operating Systems
- Overview of Windows, Linux, and Mac OS
- Server vs. Client Operating Systems
- Installation Processes for Windows Server 2022, Windows 11, Ubuntu Server, and Ubuntu Client

Module 4: Building and Setting Up Organizational LAN Networks
- Understanding LAN Networks
- Setting up a LAN: Components and Functions
- Working with Hubs, Switches: Broadcast Traffic, Flooding, MAC Tables, Unicast

Module 5: Principles of IP Addressing
- Understanding IP Addresses
- Types of IP Addressing: IPv4 and IPv6
- Subnetting Techniques

Module 6: Configuring, Administering, and Managing Windows Server
- Active Directory Setup and Management
- Domain and Workgroup Models
- User and Group Policies
- File and Printer Sharing
- DHCP and DNS Services
- Internet Information System (IIS)

Module 7: Configuring, Administering, and Managing Linux Server
- Linux Operating System Basics
- Linux Filesystem and User Accounts
- File Permissions and Package Management
- Setting up Web and FTP Servers

Module 8: Implementing WAN Connectivity between Multiple Organization Locations
- Introduction to Routers and Their Functions
- Configuring Cisco Routers
- WAN Connectivity and Routing Principles
- Types of Routing: Static, Dynamic, and Default

Module 9: Implementing Internet Connectivity
- Network Address Translation (NAT) and Port Address Translation (PAT)
- Static NAT

- Configuring Organization Routers
- Configuring Home WiFi Routers
- WiFi Security for Home Users

Module 10: System and Network Troubleshooting Techniques

- Troubleshooting System, LAN, and WAN Connectivity Issues

Module 11 : Introduction to Cloud Technologies

- Understanding Cloud Computing
- Types of Cloud Technologies: SAAS, PAAS, IAAS
- Overview of Cloud Service Providers: AWS, Azure, GCP
- Creating Cloud Machines on AWS, Azure, and GCP