

Basic Networking Course

Syllabus (Duration 3 Month)

Fundamentals of Computer Network

- This section introduces the core concepts behind computer networking. In this we will learn what is computer network, its benefits, characteristics and essential hardware components involved.
- [Basics of Computer Networks](#)
- [Network Devices](#)
- [Types of Networks](#)



In this section foundational frameworks of Computer Networks will be discussed. These frameworks provide a standard set of rules for network communication. We will dive deep into the layered structures of the OSI and TCP/IP models. This will help us understand their purpose and compare their approaches in organizing network functions.



Network Models




Basic Networking Course Syllabus

A basic networking course covers the fundamental concepts, components, and protocols that enable communication between computers. A typical syllabus includes foundational topics like the OSI and TCP/IP models, IP addressing, network hardware, and security essentials.

I. Introduction to Computer Networks

- **Basic Concepts:** What is a network, goals, and characteristics of computer networks
- **Need for Networks:** Resource sharing, internet access, client-server computing, and remote access
- **Network Types:** LAN, WAN, MAN, PAN
- **Network Topologies:** Bus, ring, star, mesh, hybrid

II. Network Models and Protocols

- **OSI Model:** Understanding its seven layers and their functions
 - **TCP/IP Model:** The architecture and function of each layer
 - **Protocols:** Introduction to key communication protocols and standards
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III. Networking Hardware and Media



- **Network Media:** Twisted-pair, coax, fiber optic cables
- **Networking Devices:** NICs, hubs, switches, routers
- **Cabling:** Making and testing network cables

IV. IP Addressing and Subnetting

- **IP Address Basics:** IPv4 structure, classes, public vs. private addresses
- **Subnetting:** Understanding network and host portions, subnet masks, and calculations
- **Routing:** How routers operate and discover paths

V. Network Services and Security

- **DHCP and DNS:** How these services provide IP addresses and domain name resolution
- **Network Security Fundamentals:** Firewalls, encryption, VPNs, and Wi-Fi security (WPA/WPA2)

VI. Basic Network Configuration & Troubleshooting

- **Basic Configuration:** Setting IP addresses, sharing files
- **Troubleshooting Tools:** Using PING and ipconfig

- Operating Systems Installation Windows, Linux, Android Etc.
- MS-Office and Other Software Installation
- Printer Driver Installation
- Server / Client
- Virtual Machine Software
- Sharing devices such as printers and scanners
- Sharing Data
- Remote access
- Network Design on Packet Tracer
- Cable Making Cross over & Straight



Other Feature



Thank you

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