NS3EDU.

📖 Learn Today 💲 Earn Tomorrow

CCNA Networking
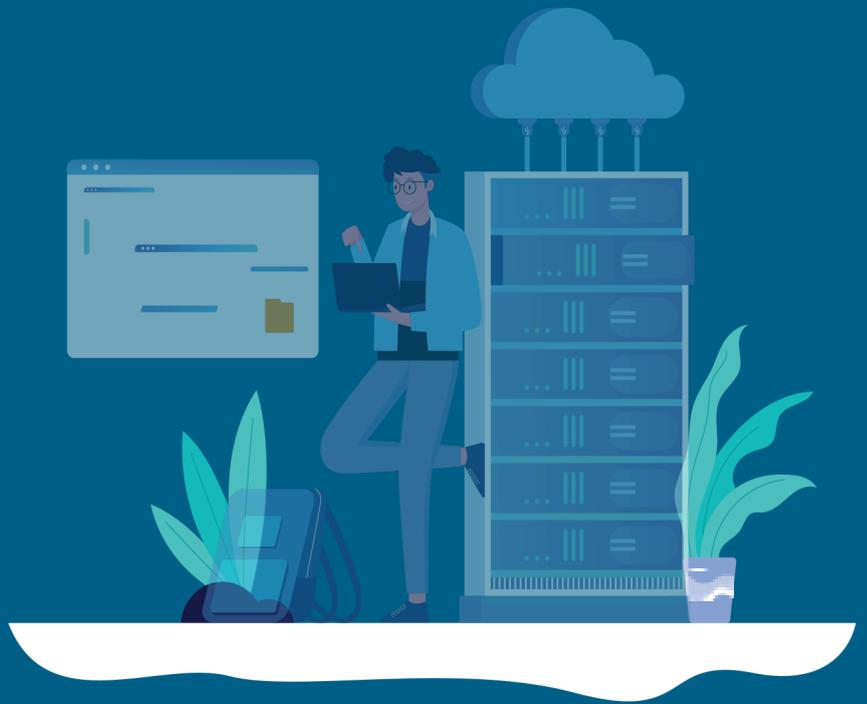## COURSEOUTLINE

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NS3EDU: BRIDGE YOUR

IT DREAMS
TO REALITY

EMPOWERING CAREER
THROUGH KNOWLEDGE

Looking to make it big in the world of IT networking? Look no further than NS3Edu! We help beginners learn the ropes & experienced pros master new skills. Come join us and build your dream career!

CERTIFICATES

MISSION

Themissionof NS3Eduisto

empower our candidates with in-depth knowledge of IT fundamentals along with real-time industry experience and also take 100% responsibility for the placement by making them Industry fit.

VISION

In-depth knowledge + hands-on experience + analytical thinking = placement

ROADMAP OF JOB PLACEMENT

Confused in **Different** Career Options

Qualifies- Job Placement

Counselling & **Demo** sessions

DEMO

Opportunities for **Job** Placement

Student Enrollment & Induction **session**

Screening by Corporate **HR** & **Tech** Team

Course **Kick** off (Live Classes)

2 Week **Technical Task** Training

Access to Recorded Sessions, E book & Lab Manual

REC

NS3 Tech **Industrial** Exposure

Course **Completion**

WHAT MAKES US UNIQUE?

USP'S

Industry Demand & Customized Courses

Smart Classrooms

100% Job Placement

Offline/Online Classroom Mode

Lifetime Membership

Recorded Sessions & Mock Interviews

Employability Enhancement Program

100% Industry Fit

24*7 Lab Access & Real-time Troubleshooting

Certified Trainers & Advance Lab

Course Outline

LEVEL 1: Networking Fundamentals (Beginner Level).

Part 1: Introduction to Networking
- What is Computer Networking
- Types of Networks (LAN, WAN, MAN, PAN)
- Network Topologies
- Client–Server vs Peer-to-Peer
- Network Components & Roles
- Bandwidth, Latency & Throughput
- IEEE Networking Standards

Part 2: OSI & TCP/IP Models
- OSI Model (7 Layers – Detailed)
- TCP/IP Model
- Layer-wise Protocols
- Encapsulation & De-encapsulation
- Port Numbers & Services

Part 3: Physical Layer & Network Media
- UTP, STP & Fiber Optic Cables
- Cable Categories (Cat5, Cat6, Cat6a)
- Straight & Crossover Cables
- Transmission Modes
- NIC & Physical Connectivity

Part 4: Ethernet & Switching Basics

- Ethernet Standards
- MAC Addressing
- Switch Working Principle
- CAM Table
- Collision vs Broadcast Domains
- Hub vs Switch vs Router

LEVEL 2: IP Addressing & Routing (Intermediate Level)

Part 5: IP Addressing

- IPv4 Structure
- IP Address Classes
- Public vs Private IP
- Static vs Dynamic IP
- Binary Conversion
- Network ID & Host ID

Part 6: Subnetting & CIDR

- Subnetting Concepts
- Subnet Mask
- CIDR Notation
- Host & Network Calculation
- VLSM
- Supernetting
- Real-World Subnetting Scenarios

Part 7: Routing Fundamentals

- Routing Concepts
- Routing Table
- Static Routing
- Default Routing
- Introduction to Dynamic Routing

Part 8: VLAN & Inter-VLAN Routing

- VLAN Concepts & Benefits
- VLAN Types
- Access & Trunk Ports
- 802.1Q Tagging
- Inter-VLAN Routing

LEVEL 3: Enterprise Networking & Security (Professional Level)

Part 9: Network Services

- DHCP (DORA Process)
- DNS (Records & Resolution)
- NAT (Static, Dynamic, PAT)

Part 10: Network Security Fundamentals

- CIA Triad
- Network Security Basics
- Standard & Extended ACL

- Firewall Concepts
- VPN Introduction
- Common Network Attacks

Part 11: **Wireless Networking**
- Wi-Fi Standards (802.11 a/b/g/n/ac/ax)
- Wireless Security (WPA2, WPA3)
- Access Points
- Wireless Troubleshooting

Part 12: **WAN Technologies**
- WAN Concepts
- Leased Line
- PPP
- MPLS (Introduction)
- SD-WAN Overview

Part 13: **Monitoring & Troubleshooting**
- Troubleshooting Methodology
- Networking Commands (Ping, Tracert, IPconfig, etc.)
- Packet Analysis Basics
- Real Network Issue Scenarios

Part 14: **Automation & Programmability (Intro – CCNA 200-301)**
- Network Automation Overview
- Controller-Based Networking
- SDN Concepts
- APIs & Network Programmability Basics

Part 15: Real-World Labs & Projects

- LAN & VLAN Configuration
- Routing & Subnetting Labs
- Enterprise Network Design
- Troubleshooting Scenarios
- Packet Tracer / GNS3 Labs

Part 16: Career & Certification Preparation

- CCNA (200-301) Exam Overview
- Network Engineer Roles
- Interview Questions & Scenarios
- Resume & Lab Project Guidance
- Mock Interviews

OUR PLACEMENT
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