# Mikrotik

## Day 1: Introduction to MikroTik and RouterOS

1. **Introduction to MikroTik and Networking Basics**
   - Overview of MikroTik as a networking solution
   - Understanding fundamental networking concepts
2. **RouterOS Installation and Configuration**
   - Installing RouterOS on MikroTik devices
   - Initial configuration and basic settings
   - Accessing devices via Winbox and Webfig
3. **RouterOS CLI and Configuration**
   - Navigating the RouterOS Command Line Interface (CLI)
   - Configuring interfaces, IP addresses, and DHCP
   - Enabling basic routing and static routes

## Day 2: Advanced Routing and Network Services

4. **Dynamic Routing Protocols**
   - Implementing dynamic routing with OSPF and BGP
   - Configuring route redistribution and filtering
5. **Firewall and Security Configuration**
   - Setting up firewall rules for packet filtering
   - Configuring NAT and port forwarding
   - Implementing security policies and access control
6. **Quality of Service (QoS)**
   - Managing network traffic using QoS techniques
   - Prioritizing traffic and ensuring optimal performance

## Day 3: Wireless Networking and Hotspots

7. **Wireless Network Configuration**
   - Setting up wireless interfaces and access points
   - Securing wireless networks with encryption and authentication
8. **Wireless Bridging and Mesh Networks**
   - Implementing point-to-point and point-to-multipoint bridging
   - Configuring wireless mesh networks for extended coverage
9. **Hotspot Configuration and User Management**
   - Setting up hotspot services for guest access

- Managing user authentication and authorization
- Customizing hotspot login pages and settings

## Day 4: Network Monitoring and Management

### 10. Network Monitoring and Tools
- Using tools like Ping, Traceroute, and Torch
- Monitoring network traffic and bandwidth usage
- Diagnosing network issues with Packet Sniffer

### 11. Network Management with Dude
- Introduction to The Dude network monitoring tool
- Configuring devices for monitoring and alerts
- Generating reports and visualizing network data

## Day 5: VPNs and Advanced Topics

### 12. Virtual Private Networks (VPNs)
- Configuring site-to-site and remote access VPNs
- Implementing secure communication using IPsec and L2TP

### 13. Load Balancing and Failover
- Distributing traffic across multiple links with load balancing
- Setting up failover for high availability

### 14. Advanced Configuration and Troubleshooting
- Exploring advanced RouterOS features and settings
- Troubleshooting common network issues and challenges

### 15. Final Project and Certification
- Applying MikroTik concepts to a practical project
- Presenting the network design and configuration approach
- Evaluation and assessment for the MikroTik Certification