

## **Week 1**

- Class Introduction
- Your POD and LAB Topology
- Class Agenda
- Basic Student Assessment
- Service Provider Certification
- Changing landscape of Service Provider technologies and networks
- Typical Service Provider topologies (access, core, MPLS/overlay networks)
- IOS, IOS-XE, IOS-XR introduction and hardware architectures (+RPL)

## **Week 2**

- Link state protocols: OSPFv2, OSPFv3 and IS-IS
- Labs

## **Week 3**

- BGP basics (sessions, RR/confederations, TE, IXP/RS)
- Labs

## **Week 4**

- BGP advanced: paths, MPLS VPNs
- Labs

## **Week 5**

- MPLS L3 & L2 VPNs (VPLS, EVPN, ATOM)
- L2TPv3
- Labs

## **Week 6**

- MPLS VPN scenarios (PE-CE)
- Labs

## **Week 7**

- MPLS TE scenarios
- Labs

## **Week 8**

- IPv6 and SP - coexistence and migrations
- Labs

## **Week 9**

- Multicast
- Fast Convergence

## **Week 10**

- System tasks: HA, monitoring, diagnostics & Labs
- System and network security & Labs