Course Outline of Introduction to Cisco 5G Solutions (5GINT)

Introduction to 5G cellular networks

- 5G services
- Network-as-a-service
- IOT Connected devices
- Smart Cities
- Mobile SD-WAN
- Mobile Managed Security
- Mobile Video
- Enterprise Collaboration
- Connected Mobile experience

5G Network Architecture

- NG-RAN
- Standalone vs Non-Standalone
- 5G NSA Option 3 Variants
- 5G Deployment options
- Identities
- 5G Core
- Cloud Native
- 5G SA Based and Service Based Architecture

Enabling technologies for 5G

- Control / User plane separation (CUPS)
  - Concepts and standards
  - Inline vs remote CUPS
  - Reference point specifications
- Cloud scale Networking with Cloud RAN / core and SDWAN
- Mobile network to Scale with video using EMC
- Network Slicing
  - Overview
  - Benefits for operators
  - Slice / Service types
  - Slicing according to 3GPP

Front-haul, mid-haul, back-haul

Interworking with 4G

- Cisco core network solution evolution
- Voice and IMS options in 5G SA
- EPC vs 5GC

Cisco's Cloud based approach to 5G

- 5G converged SDN transport Architecture
- Segment routing
- Cloud RAN
- Service Provider Automation portfolio
- Security First mobile transport
- Open vRAN
- Multi-Access Edge Computing (MEC)

Cisco Ultra Service Platform

Cisco Policy Suite (CPS)

- PCRF, vDRA
- API Gateway
- API GW – NB-IoT SCEF
- Network Slicing (NSSF)
- Network Resource Function
- Policy Control (PCF)
- Network Exposure (NEF)

SONFlex and SONFlex Studio

Cisco Security Architecture

- Orchestrated security solutions
- Threat / Dark Threat Mitigation

Cisco Service Provider Automation

- Change Automation
- Health Insights
- Network Insights SaaS
- Situation Manager
- Data Platform
- Cisco NSO

- Cisco WAE

Cisco 5G transport ready Product offering and features

- NCS 540
- NCS 560
- NCS 5500
- ASR9900

Application Awareness

- Segment Routing

Service Unification via EVPN

NSO Service Orchestration

Stringent Synchronization

- Frequency Sync
- Time Sync
- Phase Sync

Zero Touch Provisioning

Network Visibility with Telemetry