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## Interconnecting Cisco Networking Devices Part 1

**Duration: 5 Days**    **Course Code: ICND1**

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### Overview:

This course focuses on providing the skills and knowledge required to install, operate, configure, and verify a basic IPv4 and IPv6 network, including configuring a LAN switch, configuring an IP router, connecting to a WAN, and identifying basic security threats. At the end of this course students should be able to complete the configuration, implementation and troubleshooting of a small branch network under supervision. test

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### Target Audience:

This course is designed for: Network engineers and administrators who will install, operate and troubleshoot a small branch office Enterprise network. This is an entry level course and is ideal for those individuals new to networking and looking to start their Cisco Career Certification accreditation.

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### Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
  - Describe network fundamentals and build simple LANs
  - Establish Internet connectivity
  - Manage network device security
  - Expand small- to medium-sized networks with WAN connectivity
  - Describe IPv6 basics
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### Prerequisites:

The knowledge and skills that a learner must have before attending this course are as follows:

- Basic Windows navigation and keyboard literacy skills
- Basic Internet usage skills
- Basic IP addressing knowledge

### Testing and Certification

Recommended as preparation for:

- **100-101 - ICND1** Introduction to Cisco Network Devices Part 1  
**OR**
  - **200-120 - CCNA** - This is a composite exam consisting of both ICND1 & ICND2  
Note: Passing the ICND1 exam (100-101) results in the award of the Cisco Certified Entry Network Technician (CCENT) certification. Students taking the composite exam will only be awarded the CCNA Routing and Switching Certification, they will not be awarded the CCENT certification.
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### Follow-on-Courses:

The following courses are recommended for further study:

- ICND2 - Interconnecting Cisco Network Devices Part 2- Required to gain CCNA Routing and Switching Certification
  - DESGN - Designing for Cisco Internetwork Solutions
  - IINS - Implementing Cisco IOS Network Security- Required to gain CCNA Security Certification.
  - IUWNE - Implementing Unified Wireless Networking Essentials- Required to gain CCNA Wireless Certification.
  - ICOMM - Introducing Cisco Voice and Unified Communications Administration- Required to gain CCNA Voice Certification.
  - SSPO - Supporting Cisco Service Provider IP NGN Operations - Required to gain CCNA SP Ops Certification.
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## Content:

### Building a Simple Network

- Exploring the Functions of Networking
- Understanding the Host-to-Host Communications Model
- Introducing LANs
- Operating Cisco IOS Software
- Starting a Switch
- Understanding Ethernet and Switch Operation
- Troubleshooting Common Switch Media Issues

### Establishing Internet Connectivity

- Understanding the TCP/IP Internet Layer
- Understanding IP Addressing and Subnets
- Understanding the TCP/IP Transport Layer
- Exploring the Functions of Routing
- Configuring a Cisco Router
- Exploring the Packet Delivery Process
- Enabling Static Routing
- Managing Traffic Using ACLs
- Enabling Internet Connectivity

### Managing Network Device Security

- Securing Administrative Access
- Implementing Device Hardening
- Implementing Traffic Filtering with ACLs

### Building a Medium-Sized Network

- Implementing VLANs and Trunks
- Routing between VLANs
- Using a Cisco Network Device as a DHCP Server
- Introducing WAN Technologies
- Introducing Dynamic Routing Protocols
- Implementing OSPF

### Introducing IPv6

- Introducing Basic IPv6
- Understanding IPv6
- Configuring IPv6 Routing

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## Additional Information:

### **Recertification**

CCENT certifications are valid for three years. To recertify, pass either the ICND1 or ICND2 exam, or pass the current CCNA Routing and Switching exam, or pass a CCNA Concentration exam (wireless, security, voice), or pass any 642-XXX professional level or Cisco Specialist exam (excluding Sales Specialist exams), or pass a current CCIE or CCDE written exam.

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## Further Information:

For More information, or to book your course, please call us on +254 713 027 191

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## Implementing Unified Wireless Networking Essentials V 2.0

**Duration: 5 Days**    **Course Code: IUWNE**

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### Overview:

The Implementing Cisco Unified Wireless Networking Essentials (IUWNE) course is designed to help students prepare for the CCNA wireless certification, an associate-level certification specializing in the wireless field. The goal of the course is to provide students with information and practice activities to prepare them to help design, install, configure, monitor, and conduct basic troubleshooting tasks for a Cisco wireless LAN (WLAN) in small and medium-size business (SMB) and enterprise installations. This course provides entry-level information, and it does not specialize in any of the advanced features of the Cisco WLAN network solutions.

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### Target Audience:

This course is designed for: Individuals who are involved in the technical management of Cisco Unified Wireless platforms and solutions, which involves installing, configuring, operating, and troubleshooting.

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### Objectives:

- Upon completing this course, you will be able to meet these objectives:
  - Describe the fundamentals of wireless networks
  - Install a Cisco Unified Wireless Network
  - Describe and configure a basic wireless client using either the default operating system or Cisco Wireless LAN (WLAN) adapter configuration utilities
  - Configure wireless security
  - Manage the wireless network with Cisco WCS
  - Maintain and troubleshoot a wireless network
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### Prerequisites:

The knowledge and skills that a learner must have before attending this course are as follows:

- Basic computer literacy, including the use of general office software such as Microsoft Word and Microsoft Excel
- Basic Windows navigation and keyboard literacy skills
- Basic Internet usage skills
- Basic email usage skills
- CCENT, CCNA Routing and Switching or any Cisco CCIE Certification

To gain the prerequisite skills and knowledge, Cisco strongly recommends the knowledge of the following courses:

- Interconnecting Cisco Networking Devices Part 1 (ICND1)
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### Testing and Certification

Recommended as preparation for:

- 640-722 - Implementing Cisco Unified Wireless Networking Essentials

IUWNE is the course required for **Cisco Certified Network Associate (CCNA) Wireless Certification**

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### Follow-on-Courses:

- Conducting Cisco Unified Wireless Site Survey (CUWSS)
- Implementing Cisco Unified Wireless Voice Networks (IUWVN)
- Implementing Cisco Unified Wireless Mobility Services (IUWMS)
- Implementing Advanced Cisco Unified Wireless Security (IAUWS)

All the above courses are part of the **Cisco Certified Network Professional (CCNP) Wireless Certification**

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## Content:

### Wireless Fundamentals

- Describing Wireless Networks and Topologies
- Describing WLAN RF Principles
- Describing RF Mathematics
- Describing Antennas
- Describing Spread Spectrum Technologies
- Describing Wireless Regulation Bodies, Standards, and Certifications
- Examining Wireless Media Access
- Examining Non-802.11 Wireless Technologies and Their Impact on WLANs
- Reviewing the Wireless Frame Journey: End to End
- Identifying Design and Site-Survey Considerations

### Basic Cisco WLAN Installation

- Understanding Cisco Unified Wireless Network Basic Architecture
- Configuring a Controller
- Discovering and Associating with a Controller
- Describing Access Point Operational Modes
- Roaming
- Managing the Network from the Controller
- Configuring and Migrating Standalone Access Points

### Wireless Clients

- Using Default Configuration Tools
- Configuring the Cisco AnyConnect Secure Mobility Client
- Understanding the Cisco Compatible Extensions Program

### WLAN Security

- Describing WLAN Security Components
- Establishing IEEE 802.11 Security
- Centralizing WLAN Authentication
- Describing EAP Authentications
- Managing Authentication and Encryption Through WPA and WPA2
- Configuring Wireless Security on Controllers and Clients

### Cisco WCS Basics

- Introducing Cisco WCS and Cisco WCS Navigator
- Navigating the Cisco WCS Interface
- Working with Controllers from Cisco WCS
- Working with Preconfigured Maps
- Monitoring the Network with Cisco WCS
- Working with Cisco CleanAir in Cisco WCS

### WLAN Maintenance and Troubleshooting

- Maintaining the System
- Troubleshooting a Wireless Network

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