# Course Ou

## Networking Fundan




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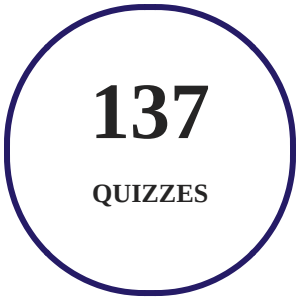
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## 1. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

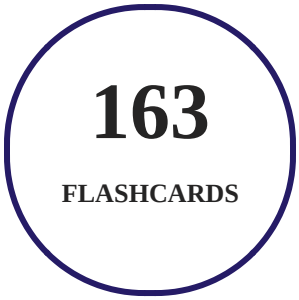
## 2. Quizzes

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.




## 3. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.




## 4. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.




## 5. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

## 6. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

## 7. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

## 8. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
  1. Best Postsecondary Learning Solution
- **2015**
  1. Best Education Solution

2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**
  1. Best Virtual Learning Solution
  2. Best Education Cloud-based Solution
  3. Best College and Career Readiness Solution
  4. Best Corporate / Workforce Learning Solution
  5. Best Postsecondary Learning Content Solution
  6. Best Postsecondary LMS or Learning Platform
  7. Best Learning Relationship Management Solution

- **2017**
  1. Best Overall Education Solution
  2. Best Student Assessment Solution
  3. Best Corporate/Workforce Learning Solution
  4. Best Higher Education LMS or Learning Platform

- **2018**
  1. Best Higher Education LMS or Learning Platform
  2. Best Instructional Solution in Other Curriculum Areas
  3. Best Learning Relationship Management Solution

- **2019**
  1. Best Virtual Learning Solution
  2. Best Content Authoring Development or Curation Solution
  3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

## 9. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

## Syllabus

### Chapter 1: Introduction to Networking

- Overview
- Comparing Logical and Physical Networks
- Networking Home Computers
- Networking Small Offices and Home Offices
- Networking Large Offices
- Networking Enterprises
- Understanding Standards Organizations

## Chapter 2: Overview of Networking Components

- Overview
- Comparing Unicast, Broadcast, and Multicast Traffic
- Understanding Network Hardware
- Exploring Protocols and Services
- Understanding Basic Topologies

## Chapter 3: Understanding the OSI Model

- Understanding the OSI Model
- Understanding the TCP/IP Model
- Mapping Devices on the OSI and TCP Models
- Mapping Protocols on the OSI and TCP/IP Models

## Chapter 4: Exploring Common Protocols

- Core TCP/IP Protocols
- Understanding TCP and UDP
- Exploring Common Protocols
- Understanding Ports

## Chapter 5: Identifying the Default Gateway

- Exploring IPv4
- Exploring the Components of an IPv4 Address
- Exploring an IPv4 Address in Binary
- Subnetting IPv4 Addresses
- Comparing Manual and Automatic Assignment of IPv4 Addresses

## Chapter 6: Understanding Hexadecimal

- Exploring IPv6
- Exploring IPv6 Addresses
- Exploring the Components of an IPv6 Address
- Understanding the Dual IP Stack
- Comparing Manual and Automatic Assignment of IPv6

## Chapter 7: Connecting Computers to a Network

- Identifying Potential Problems with Connectivity
- Exploring Cable Types and Their Characteristics

## Chapter 8: Networking Computers with Switches

- Overview
- Connecting Multiple Computers
- Understanding Physical Ports
- Comparing Hubs and Switches
- Comparing Managed and Unmanaged Switches
- Exploring Switch Speeds
- Understanding Security Options

## Chapter 9: Connecting Networks with Routers

- Overview
- Connecting Multiple Networks
- Routing Traffic on a Network
- Identifying Transmission Speeds
- Routing Software in Windows Server 2016
- Understanding Other Routing Protocols
- Quality of Service (QoS)

## Chapter 10: Exploring Types of Names Used in Networks

- Resolving Names to IP Addresses
- Exploring Types of Names Used in Networks
- Exploring Types of Name Resolution
- Identifying the Steps in Name Resolution

## Chapter 11: Understanding Network Security Zones

- Overview
- Understanding Risks on the Internet
- Exploring an Intranet
- Understanding Firewalls
- Identifying a Perimeter Network
- Understanding Extranets

## Chapter 12: Understanding Wireless Networking

- Overview
- Exploring Basic Wireless Components
- Comparing Networking Standards and Characteristics
- Comparing Network Security Methods
- Using Wireless Networks

- Understanding Point-to-Point Wireless

## Chapter 13: Understanding Internet Access Methods and Wide Area Networks

- Overview
- Comparing Connectivity Methods Used in Homes and SOHOs
- Comparing Connectivity Methods in Enterprises
- Exploring Remote Access Services
- Using RADIUS

## Chapter 14: Using the Command Prompt

- Troubleshooting TCP/IP
- Using the command Prompt
- Checking the TCP/IP Configuration with ipconfig
- Troubleshooting Connectivity with ping
- Identifying Routers with tracert
- Verifying the Routed Path with pathping
- Viewing TCP/IP Statistics with netstat
- Installing Telnet

## Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

| 194 | 03:40 |
|---|---|
| VIDEOS | HOURS |

## 10. Practice Test

## Here's what you get

| 40 | 2 | 40 |
|---|---|---|
| PRE-ASSESSMENTS QUESTIONS | FULL LENGTH TESTS | POST-ASSESSMENTS QUESTIONS |

## Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

**Unlimited Practice**

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

## 11.  Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

## Lab Tasks

**Overview of Networking Components**

- Obtaining the TCP Information
- Disabling a Service
- Configuring Security Zones

**Understanding the OSI Model**

- Obtaining the MAC Address of a Network Adpater

**Exploring Common Protocols**

- Caching using ARP
- Obtaining HTTP Ports
- Connecting to an FTP Server
- Establishing a Telnet Connection
- Connecting through RDP
- Establishing a SSH Connection

**Identifying the Default Gateway**

- Configuring a Class A IP Address
- Configuring a Class B IP Address
- Configuring a Class C IP Address
- Adding an IPv4 Address
- Configuring a CIDR Based IP network
- Disabling APIPA
- Installing a DHCP Server
- Configuring a DHCP Server

**Understanding Hexadecimal**

- Adding an IPv6 Address

**Connecting Networks with Routers**

- Configuring RRAS as a NAT Server
- Enabling Routing and Remote Access Services
- Adding Routes
- Installing Hyper-V in Full Installation Mode
- Installing the Remote Access Role and RIP

**Exploring Types of Names Used in Networks**

- Installing a DNS Server
- Installing the Active Directory Domain Services Role

- Analyzing the TCP/IP Configuration with nbtstat
- Installing a WINS Server
- Configuring a Zone for Dynamic Updates
- Creating a Record in a Zone
- Analyzing Domain Names with nslookup

**Understanding Network Security Zones**

- Configuring Windows Firewall Settings
- Configuring Advanced Security in Windows Firewall
- Configuring Windows Firewall Logging Settings
- Adding a Website to the Trusted Zone

**Understanding Wireless Networking**

- Using the Network Policy Server

**Understanding Internet Access Methods and Wide Area Networks**

- Configuring a VPN Server using the Routing and Remote Access Role
- Configuring a VPN Client
- Setting Remote Access Client IPv4 Address

**Using the Command Prompt**

- Getting the TCP Settings
- Using the netsh Command
- Displaying IP Addresses and MAC Addresses
- Understanding the ipconfig Command
- Configuring DNS Information
- Testing the Existence of Other Hosts
- Analyzing Network Paths with tracert
- Analyzing Network Paths with pathping
- Analyzing the TCP/IP Configuration with netstat
- Installing the Telnet Client

## Here's what you get

| 49 | 47 | 48 |
|---|---|---|
| LIVE LABS | VIDEO TUTORIALS | MINUTES |

## 12. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

## GET IN TOUCH:

3187 Independence Drive
Livermore, CA 94551,
United States

+1-415-763-6300

support@ucertify.com

www.ucertify.com