

uCertify

Course Outline

Practical Network Security



30 Oct 2025

1. Exercises, Quizzes, Flashcards & Glossary
Number of Questions
2. Expert Instructor-Led Training
3. ADA Compliant & JAWS Compatible Platform
4. State of the Art Educator Tools
5. Award Winning Learning Platform (LMS)
6. Chapter & Lessons

Syllabus

Chapter 1: Introduction

Chapter 2: Basics of Information Security

Chapter 3: Threat Paradigm

Chapter 4: Information Security Controls

Chapter 5: Decoding Policies, Standards, Procedures, & Guidelines

Chapter 6: Network Security Design

Chapter 7: Know Your Assets

Chapter 8: Implementing Network Security

Chapter 9: Secure Change Management

Chapter 10: Vulnerability and Risk Management

Chapter 11: Access Control

Chapter 12: Capacity Management

Chapter 13: Log Management

Chapter 14: Network Monitoring

Chapter 15: Information Security Audit

Chapter 16: Technical Compliance Audit

Chapter 17: Penetration Testing

Chapter 18: Appendix

Videos and How To

7. Live labs

Lab Tasks

Here's what you get

1. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

72
EXERCISES

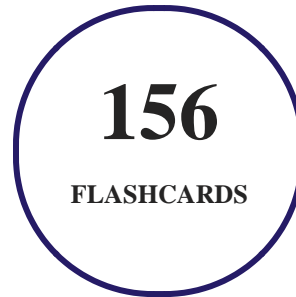
2. Quiz

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.

200
QUIZ

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

Chapter 2: Basics of Information Security

- Why Information Security
- What Is Information Security
- Goals
- Methods
- Tools
- Beyond Confidentiality Integrity Availability (CIA)

- Responsibility of Information Security
- Perspective of Information Security

Chapter 3: Threat Paradigm

- Threat Paradigm
- Attackers or Threat Agents
- Threat Motivation
- Threat Impact
- Types of Attacks

Chapter 4: Information Security Controls

- Information Security Controls
- Examples of Information Security Controls

Chapter 5: Decoding Policies, Standards, Procedures, & Guidelines

- Documents Hierarchy
- Policy
- Standards
- Procedures and Guidelines

- Document Format
- Decoding Policies and Standards

Chapter 6: Network Security Design

- Network Security Design Principles
- Defense in Depth
- Security Zones and Network Segmentation
- Secure Remote Access
- Secure Third Party Access
- Least Privilege
- Segregation of Duties
- Encryption
- High Availability
- Network Access Control (NAC)
- Security of Test Environment

Chapter 7: Know Your Assets

- Identifying Assets
- Different Types of Assets

- Asset Responsibility
- Asset Valuation
- Asset Classification/Rating Review
- Audit Requirement

Chapter 8: Implementing Network Security

- Introducing Assets to Production Environment
- Pre-Production Check List
- Best Practices for Network Design
- Best Practices for Firewall
- Best Practices for Routers and Switches
- Best Practices for VPN
- Best Practices for Wireless Networks

Chapter 9: Secure Change Management

- Change Management
- Secure Change Management Process
- Audit Requirements

Chapter 10: Vulnerability and Risk Management

- Vulnerability and Risk Management
- Common Vulnerabilities Found in the Network Environment
- Vulnerability and Risk Management Process
- Handling Zero Day
- Audit Requirements

Chapter 11: Access Control

- Introduction
- Identification
- Authentication
- Authorization
- Accounting
- Access Control Policies and Procedures
- Access Control Implementation
- User Registration and De-Registration
- Password Management
- Asset Classification

- Access Provisioning
- Network Admission Control (NAC)
- Privilege User Access Management
- Remote Access Management
- Third Party Access Management
- User Access Review
- Audit Requirements

Chapter 12: Capacity Management

- Capacity Management
- Documented Policies and Procedures
- Capacity Management Process
- Audit Requirements

Chapter 13: Log Management

- Logging
- Log Management Process and Documentation
- Log Generation

- Log Transmission
- Log Storage
- Log Analysis
- Log Disposal
- Audit Requirements

Chapter 14: Network Monitoring

- Monitoring
- Physical, Environmental, and Content Monitoring
- System Monitoring Standards and Procedures
- Traffic Monitoring
- Device Monitoring
- Log Monitoring - Security Information and Event Management
- Audit Requirements

Chapter 15: Information Security Audit

- Information Security Audit
- Audit Management from the Auditor's Side
- Audit Management from the Auditee's Side

Chapter 16: Technical Compliance Audit

- Technical Compliance Audit
- Technical Compliance Audit from the Auditor's Point of View
- Technical Compliance Audit from the Auditee's Point of View
- Good Practices to Avoid Compliance Findings

Chapter 17: Penetration Testing

- Penetration Testing (Pen Test)
- Stages of Penetration Testing
- Pen Testing vs. Vulnerability Assessment
- Pen Testing from the Auditee's Point
- Good Practices to Avoid Vulnerabilities

Chapter 18: Appendix

- Appendix 1: Vulnerability Management Sheet
- Appendix 2: Risk Management Sheet
- Appendix 3: Sample Compliance Task List

- Appendix 4: Risk Acceptance Form

Videos and How To

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

12

VIDEOS

16

MINUTES

10. 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

Threat Paradigm

- Analyzing the WannaCry Ransomware Attack
- Capturing Packets Using Wireshark
- Configuring WPA/WPA2/WPA3 for Personal and Enterprise Use
- Analyzing Malware Using VirusTotal
- Detecting Rootkits
- Examining Spyware
- Conducting Vulnerability Scanning Using Nessus
- Cracking Passwords Using Cain and Abel
- Using Rainbow Tables for Cracking Passwords
- Performing ARP Spoofing
- Configuring a Wireless AP
- Performing a Phishing Attack Using a SET
- Simulating a DDoS Attack

Information Security Controls

- Observing an MD5-Generated Hash Value
- Observing an SHA-256-Generated Hash Value
- Configuring IPsec
- Examining PKI Certificates
- Configuring a VPN
- Configuring a Windows Firewall
- Implementing Physical Security
- Performing Symmetric and Asymmetric Encryption
- Using a Digital Signature

Network Security Design

- Configuring Security Zones
- Implementing Least Privileged Access
- Enabling an ACL

Implementing Network Security

- Assigning Different Classes of IP Addresses
- Configuring NAT
- Managing Windows Firewall Using the Control Panel

- Creating a DMZ
- Configuring a Router
- Configuring AAA for Device Access Control

Access Control

- Implementing MFA on Mobile Devices
- Enforcing a Password Policy
- Disabling User Accounts
- Managing User Accounts

Log Management

- Viewing and Exporting Event Logs
- Configuring Syslog and Observing the Log Settings
- Analyzing Linux Logs for Security Intelligence

Network Monitoring

- Monitoring the Network
- Configuring Firewall Rules and Monitoring Network Logs Using pfsense
- Exploiting SNMP

Penetration Testing

- Performing Reconnaissance on a Network
- Using Nmap for Network and User Enumeration
- Performing Vulnerability Scanning Using OpenVAS

Here's what you get

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LIVE LABS

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VIDEO TUTORIALS

01:18

HOURS

You can't stay away! Get



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