uCertify

Course Outline

CIW: Web Security Associate (1D0-671)



27 Mar 2024

1. Course Objective
2. Pre-Assessment
3. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions
4. Expert Instructor-Led Training
5. ADA Compliant & JAWS Compatible Platform
6. State of the Art Educator Tools
7. Award Winning Learning Platform (LMS)
8. Chapter & Lessons

   Syllabus

   Chapter 1: What Is Security?

   Chapter 2: Security Threats

   Chapter 3: Elements of Security

   Chapter 4: Applied Encryption

   Chapter 5: Types of Attacks

   Chapter 6: General Security Principles

   Chapter 7: Protocol Layers and Security

   Chapter 8: Securing Resources

   Chapter 9: Firewalls and Virtual Private Networks

   Chapter 10: Levels of Firewall Protection

   Chapter 11: Detecting and Distracting Cyber-Attackers

   Chapter 12: Incident Response

   Chapter 13: Appendix A: Web Security Associate-v2.0 Objectives and Locations

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10. Live labs
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1. Course Objective

Start your prep for the CIW 1D0-671 exam with the CIW: Web Security Associate-v2.0 course and lab. Lab simulates real-world, hardware, software, and command-line interface environments and can be mapped to any text-book, course, or training. The Web Security certification course and lab cover 1D0-671 exam objectives thoroughly and teach the principles of effective network security. Lessons and TestPrep will further prepare candidates for this certification exam with their many interactive item types.

2. 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.

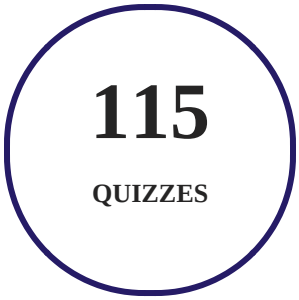
3. Exercises

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.



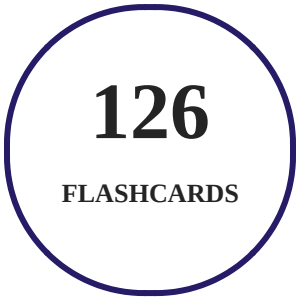
4. Quizzes

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.



5. 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.



6. 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.



7. 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.

8. 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.

9. 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.

10. 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

11. 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: What Is Security?

- What Is Security?
- Network Security Background
- Wireless Network Technologies and Security

- IEEE 802.11 Wireless Standards
- Wireless Network Security Problems
- Wireless Network Security Solutions
- Convergence Networking and Security
- Firewall Practices Applied to Virtual LANs (VLANs)
- Cyber-attacker Statistics
- The Myth of 100-Percent Security
- Attributes of an Effective Security Matrix
- What You Are Trying to Protect
- Lesson Summary

Chapter 2: Security Threats

- Who Is the Threat?
- Security Threats from Trusted Users
- Anonymous Downloads and Indiscriminate Link-Clicking
- Security Standards
- Wireless Networking Modes
- Wireless Application Protocol (WAP)

- Site Surveys
- Web Technologies
- Greynet Applications
- Sensitive Data and Data Classifications
- Vulnerabilities with Data at Rest
- Data and Drive Sanitizing
- Lesson Summary
- Optional Lab

Chapter 3: Elements of Security

- Security Elements and Mechanisms
- Security Policy
- Determining Backups
- Encryption
- Authentication
- Specific Authentication Techniques
- Access Control
- Auditing

- Security Tradeoffs
- Defense in Depth Strategy
- Lesson Summary
- Optional Lab

Chapter 4: Applied Encryption

- Reasons to Use Encryption
- Creating Trust Relationships
- Symmetric-Key Encryption
- Symmetric Algorithms
- One-Way (Hash) Encryption
- Asymmetric-Key Encryption
- Applied Encryption Processes
- Encryption Review
- Certification Authority (CA)
- Full/Whole Disk Encryption
- Lesson Summary
- Optional Lab

Chapter 5: Types of Attacks

- Network Attack Categories
- Brute-Force, Dictionary, and Password Spraying Attacks
- Rainbow Tables, Pass-the-Hash, and Birthday Attacks
- Password Storage Techniques
- System Bugs and Back Doors
- Malware (Malicious Software)
- TLS encryption
- Social Engineering Attacks
- Denial-of-Service (DoS) Attacks
- Distributed Denial-of-Service (DDoS) Attacks
- Spoofing Attacks
- Scanning Attacks
- Man-in-the-Middle Attacks
- Bots and Botnets
- Ransomware
- SQL Injection

- Cross-Site Scripting (XSS)
- Cross-Site Request Forgery (CSRF)
- Auditing
- Lesson Summary
- Optional Lab

Chapter 6: General Security Principles

- Common Security Principles
- Be Paranoid
- You Must Have a Security Policy
- No System or Technique Stands Alone
- Minimize the Damage
- Deploy Companywide Enforcement
- Provide Training
- Use an Integrated Security Strategy
- Place Equipment According to Needs
- Identify Security Business Issues
- Consider Physical Security

- Lesson Summary
- Optional lab

Chapter 7: Protocol Layers and Security

- TCP/IP Security Introduction
- OSI Reference Model Review
- Data Encapsulation
- The TCP/IP Stack and the OSI Reference Model
- Link/Network Access Layer
- Network/Internet Layer
- Transport Layer
- Application Layer
- Protocol Analyzers
- Domain Name Service
- Trusted Platform Modules and Microsoft BitLocker
- Change Management
- Lesson Summary
- Optional Lab

Chapter 8: Securing Resources

- TCP/IP Security Vulnerabilities
- Implementing Security
- Resources and Services
- Protecting TCP/IP Services
- Simple Mail Transfer Protocol (SMTP)
- Bring Your Own Device (BYOD)
- Internet of Things (IoT)
- Communication Systems
- Physical Security
- Testing Systems
- Security Testing Software
- Security Assessments
- Security and Repetition
- Lesson Summary
- Optional Lab

Chapter 9: Firewalls and Virtual Private Networks

- Access Control Overview
- Definition and Description of a Firewall
- The Role of a Firewall
- Firewall Terminology
- Operating System and Network Device Hardening
- Firewall Configuration Defaults
- Packet Filter Rules
- Packet Filter Advantages and Disadvantages
- Configuring Proxy Servers
- URL Filtering
- Remote Access and Virtual Private Networks (VPNs)
- Public Key Infrastructure (PKI)
- Cloud Computing and Virtualization
- Lesson Summary
- Optional Lab

Chapter 10: Levels of Firewall Protection

- Designing a Firewall

- Types of Bastion Hosts
- Hardware Issues
- Common Firewall Designs
- Putting It All Together
- Lesson Summary
- Optional Lab

Chapter 11: Detecting and Distracting Cyber-Attackers

- Proactive Detection
- Distracting the Cyber-Attacker
- Deterring the Cyber-Attacker
- Lesson Summary

Chapter 12: Incident Response

- Risk Management, Mitigation, and Incident Response
- Creating an Incident Response Policy
- Determining If an Attack Has Occurred
- Executing the Response Plan

- Analyzing and Learning
- Lesson Summary

Chapter 13: Appendix A: Web Security Associate-v2.0 Objectives and Locations

Chapter 14: Appendix B: Works Cited

Videos and How To

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

20	01:56
VIDEOS	HOURS

12. Practice Test

Here's what you get

62	2	62
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.

13.  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

What Is Security?

- Causing a Darkcomet Trojan Infection

Security Threats

- Analyzing Traffic Captured from Site Survey Software
- Installing a Wardriving Application and Analyzing a Site Survey Capture

Elements of Security

- Creating an Execution Control List for the su Command in Linux
- Configuring an Execution Control List in Windows Server
- Viewing and Modifying Default Access Control Settings
- Configuring and Administering an Apache Web Server

Applied Encryption

- Encrypting and Decrypting a File Using AES Crypt
- Exporting and Importing Public Keys Using Kleopatra
- Using MD5 Hash Algorithms
- Generating a Key Pair Using Kleopatra
- Encrypting and Decrypting Messages Using Kleopatra
- Installing GPG4win on Windows Server
- Generating a Key Pair Using GPG for Linux

Types of Attacks

- Viewing the Effects of Hostile JavaScript in the Browser
- Using John the Ripper in Windows Server
- Capturing a Packet Using Wireshark
- Monitoring the Denial-of-Service (DoS) Attack

- Conducting a Virus Scan in Windows to Help Thwart Attacks
- Identifying and Analyzing Network-based Attacks
- Identifying and Analyzing the Land and Teardrop Attacks
- Analyzing a Smurf attack
- Generating and Analyzing a SYN Flood in a Packet Sniffer
- Observing SHA-Generated Hash
- Conducting and Analyzing a SYN flood Using Linux and Windows Server
- Scanning a Network Using Nmap
- Performing a MITM Attack

General Security Principles

- Increasing Physical Security Using the Syskey Utility

Protocol Layers and Security

- Obtaining IP Route Information from the IP Routing Table
- Obtaining an IP Version of a Network Adapter
- Obtaining Information about an IP Version
- Getting Information about the Current Connection Statistics of TCP
- Getting the TCP Settings
- Getting Information about the UDP Ports
- Getting Information about the TCP Ports
- Getting Information about the Current Connection Statistics of UDP
- Getting the UDP Settings
- Getting Information about the DNS
- Using the iptables Command to Create a Personal Firewall in Linux

Securing Resources

- Scanning Systems in Ubuntu Linux
- Securing the FTP Service
- Securing an Apache Web Server

Firewalls and Virtual Private Networks

- Obtaining Information about the Net Firewall Profile
- Installing the Remote Access Role

Detecting and Distracting Cyber-Attackers

- Installing and Deploying Tripwire in Linux
- Setting a Logon Tripwire Script in Windows Server

Here's what you get

46	46	02:01
LIVE LABS	VIDEO TUTORIALS	HOURS

14. 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