

uCertify

Course Outline

Pearson Computer Security Fundamentals



20 May 2024

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Here's what you get

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Here's what you get

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1. Course Objective

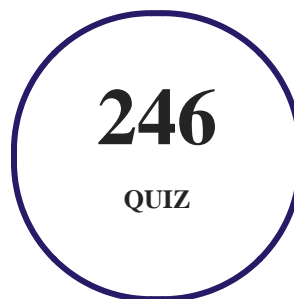
The Computer Security Fundamentals course and lab offer comprehensive learning resources that help candidates gain hands-on expertise in the technologies and methodologies of computer security. The course and lab completely cover the Web security concepts and principles that will help you improve your skills in preventing a network from threats. This course is targeted at System Administrators who are not security experts but beginners who want to know more about IT security and information security.

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.

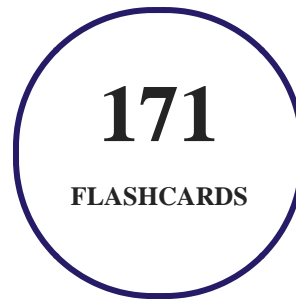
3. Quiz

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.



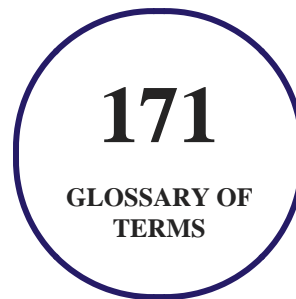
4. flashcards

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.



5. 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.



6. 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.

7. 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.

8. 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.

9. 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

10. 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: Introduction to Computer Security

- Introduction
- How Seriously Should You Take Threats to Network Security?
- Identifying Types of Threats
- Assessing the Likelihood of an Attack on Your Network
- Basic Security Terminology
- Concepts and Approaches

- How Do Legal Issues Impact Network Security?
- Online Security Resources
- Summary

Chapter 3: Networks and the Internet

- Introduction
- Network Basics
- How the Internet Works
- History of the Internet
- Basic Network Utilities
- Other Network Devices
- Advanced Network Communications Topics
- Summary

Chapter 4: Cyber Stalking, Fraud, and Abuse

- Introduction
- How Internet Fraud Works
- Identity Theft
- Cyber Stalking

- Protecting Yourself Against Cyber Crime
- Summary

Chapter 5: Denial of Service Attacks

- Introduction
- DoS
- Illustrating an Attack
- Summary

Chapter 6: Malware

- Introduction
- Viruses
- Trojan Horses
- The Buffer-Overflow Attack
- The Sasser Virus/Buffer Overflow
- Spyware
- Other Forms of Malware
- Detecting and Eliminating Viruses and Spyware

- Summary

Chapter 7: Techniques Used by Hackers

- Introduction
- Basic Terminology
- The Reconnaissance Phase
- Actual Attacks
- Malware Creation
- Penetration Testing
- Summary

Chapter 8: Industrial Espionage in Cyberspace

- Introduction
- What Is Industrial Espionage?
- Information as an Asset
- Real-World Examples of Industrial Espionage
- How Does Espionage Occur?
- Steganography Used in Industrial Espionage
- Phone Taps and Bugs

- Protecting Against Industrial Espionage
- Industrial Espionage Act
- Spear Phishing
- Summary

Chapter 9: Encryption

- Introduction
- Cryptography Basics
- History of Encryption
- Modern Methods
- Public Key (Asymmetric) Encryption
- PGP
- Legitimate Versus Fraudulent Encryption Methods
- Digital Signatures
- Hashing
- MAC and HMAC
- Steganography
- Cryptanalysis

- Cryptography Used on the Internet
- Summary

Chapter 10: Computer Security Technology

- Introduction
- Virus Scanners
- Firewalls
- Antispyware
- IDS
- Digital Certificates
- SSL/TLS
- Virtual Private Networks
- Wi-Fi Security
- Summary

Chapter 11: Security Policies

- Introduction
- What Is a Policy?

- Defining User Policies
- Defining System Administration Policies
- Defining Access Control
- Developmental Policies
- Standards, Guidelines, and Procedures
- Data Classification
- Disaster Recovery
- Important Laws
- Summary

Chapter 12: Network Scanning and Vulnerability Scanning

- Introduction
- Basics of Assessing a System
- Securing Computer Systems
- Scanning Your Network
- Getting Professional Help
- Summary

Chapter 13: Cyber Terrorism and Information Warfare

- Introduction
- Actual Cases of Cyber Terrorism
- Weapons of Cyber Warfare
- Economic Attacks
- Military Operations Attacks
- General Attacks
- Supervisory Control and Data Acquisitions (SCADA)
- Information Warfare
- Actual Cases
- Future Trends
- Defense Against Cyber Terrorism
- Terrorist Recruiting and Communication
- TOR and the Dark Web
- Summary

Chapter 14: Cyber Detective

- Introduction
- General Searches

- Court Records and Criminal Checks
- Usenet
- Summary

Chapter 15: Introduction to Forensics

- Introduction
- General Guidelines
- Finding Evidence on the PC
- Finding Evidence in System Logs
- Getting Back Deleted Files
- Operating System Utilities
- The Windows Registry
- Mobile Forensics: Cell Phone Concepts
- The Need for Forensic Certification
- Expert Witnesses
- Additional Types of Forensics
- Summary

Videos and How To

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

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VIDEOS

09:50

HOURS

11. Practice Test

uCertify provides full length practice tests. These tests closely follow the exam objectives and are designed to simulate real exam conditions. Each course has a number of test sets consisting of hundreds of items to ensure that learners are prepared for the certification exam.

Here's what you get

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PRE-ASSESSMENTS QUESTIONS

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POST-ASSESSMENTS QUESTIONS

Features

uCertify provides video training courses that contain videos and test set questions based on the exam. These courses are interactive and engaging and the learners can view the content at their own pace, in their own time, and on any device. Learners can easily track the engagement levels so they immediately know which course components are easy to understand and which are more difficult. Test set in the courses closely follow the exam objectives and are designed to simulate real exam conditions.

Each pre and post assessment comes with interactive questions which help users in better understanding of the subject matter.

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.

12. Performance Based Labs

uCertify's performance-based labs are simulators that provides virtual environment. Labs deliver hands on experience with minimal risk and thus replace expensive physical labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
- Labs simulate real world, hardware, software & CLI environment
- Flexible and inexpensive alternative to physical Labs
- Comes with well-organized component library for every task
- Highly interactive - learn by doing
- Explanations and remediation available
- Videos on how to perform

Lab Tasks

- Creating a DoS Attack Scenario
- Installing Trojan virus
- Installing Cain & Abel
- Using Cain & Abel
- Using data encryption recovery agent
- Encrypting and decrypting using CrypTool
- Using AES encryption and decryption
- Running and installing HashCalc
- Installing and using MD5 calculator
- Updating Windows Defender
- Using anti-malware scanner
- Configuring antivirus server application
- Verifying Windows Firewall and examining inbound rules
- Creating an inbound rule
- Configuring Windows firewall settings
- Installing an intrusion detection tool
- Running snort tool
- Rerunning Snort tool
- Editing snort configuration file
- Creating folder and rules file in snort folder
- Requesting user certificates
- Configuring IPSec
- Managing SSL settings
- Configuring connection security rules
- Creating policy for guest account
- Configuring password policy
- Configuring Local Security Policy
- Analyzing OWASP ZAP
- Using netcat to verify network service
- Scanning the PC for unsigned device drivers
- Scanning the URI using Vega
- Running Windows security related commands
- Adding counters
- Running the MBSA tool

- Examining Computer Management
- Creating account in Shodan
- Managing cases using OSForensics
- Configuring and scanning recent activity
- Creating a drive image
- Creating Index
- Recovering deleted files
- Managing services
- Running the Windows commands

Here's what you get

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PERFORMANCE BASED LAB

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VIDEO TUTORIALS

13. 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.

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