CYBER SECURE CODER (CSC) CERTIFICATION

DURATION: 3 DAYS

COURSE OVERVIEW

The stakes for software security are very high, and yet many development teams deal with software security only after the code has been developed and the software is being prepared for delivery. As with any aspect of software quality, to ensure successful implementation, security and privacy issues should be managed throughout the entire software development lifecycle. This course presents an approach for dealing with security and privacy throughout the entire software development lifecycle. You will learn about vulnerabilities that undermine security, and how to identify and remediate them in your own projects. You will learn general strategies for dealing with security defects and misconfiguration, how to design software to deal with the human element in security, and how to incorporate security into all phases of development.

TARGET AUDIENCE

This course is designed for software developers, testers, and architects who design and develop software in various programming languages and platforms including desktop, web, cloud, and mobile, and who want to improve their ability to deliver software that is of high quality, particularly regarding security and privacy.

This course is also designed for students who are seeking the Logical Operations Cyber Secure
Coder (CSC) Exam CSC-110 certification.

COURSE OBJECTIVES

In this course, you will employ best practices in software development to develop secure
software.

You will:

1. Identify the need for security in your software projects.
2. Eliminate vulnerabilities within software.

3. Use a Security by Design approach to design a secure architecture for your software.
4. Implement common protections to protect users and data.
5. Apply various testing methods to find and correct security defects in your software.
6. Maintain deployed software to ensure ongoing security.

COURSE CONTENT

Lesson 1: Identifying the Need for Security in Your Software Projects

Topic A: Identify Security Requirements and Expectations
Topic B: Identify Factors That Undermine Software Security
Topic C: Find Vulnerabilities in Your Software
Topic D: Gather Intelligence on Vulnerabilities and Exploits

Lesson 2: Handling Vulnerabilities

Topic A: Handle Vulnerabilities Due to Software Defects and Misconfiguration
Topic B: Handle Vulnerabilities Due to Human Factors
Topic C: Handle Vulnerabilities Due to Process Shortcomings

Lesson 3: Designing for Security

Topic A: Apply General Principles for Secure Design
Topic B: Design Software to Counter Specific Threats

Lesson 4: Developing Secure Code

Topic A: Follow Best Practices for Secure Coding
Topic B: Prevent Platform Vulnerabilities
Topic C: Prevent Privacy Vulnerabilities

Lesson 5: Implementing Common Protections

Topic A: Limit Access Using Login and User Roles
Topic B: Protect Data in Transit and At Rest
Topic C: Implement Error Handling and Logging
Topic D: Protect Sensitive Data and Functions
Topic E: Protect Database Access

Lesson 6: Testing Software Security

Topic A: Perform Security Testing
Topic B: Analyze Code to find Security Problems
Topic C: Use Automated Testing Tools to Find Security Problems

Lesson 7: Maintaining Security in Deployed Software

Topic A: Monitor and Log Applications to Support Security
Topic B: Maintain Security after Deployment

Appendix A: Mapping Course Content to Cyber Secure Coder (Exam CSC-110)

COURSE PREREQUISITES

This course presents secure programming concepts that apply to many different types of software development projects. While this course uses Python, HTML, and JavaScript to demonstrate various programming concepts, you do not need to have experience in these languages to benefit from this course. However, you should have some programming experience, whether it be developing desktop, mobile, web, or cloud applications. A variety of courses covering software development that you might use to prepare for this course, such as:

1. Developing Secure Universal Windows® Platform Apps in C# and XAML
2. Developing Secure iOS® Apps for Business
3. Developing Secure Android™ Apps for Business
4. Python® Programming: Introduction
5. Python® Programming: Advanced
6. Programming Google App Engine™ Applications in Python®
7. HTML5: Content Authoring with New and Advanced Features
8. SQL Querying: Fundamentals