

Cyber Secure Coder

Course Overview

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This is a 3-day class

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.

Who Should Attend

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:

- Identify the need for security in your software projects.
- Eliminate vulnerabilities within software.
- Use a Security by Design approach to design a secure architecture for your software.
- Implement common protections to protect users and data.
- Apply various testing methods to find and correct security defects in your software.
- Maintain deployed software to ensure ongoing security.

Course Outline

1 Identifying the Need for Security in Your Software Projects

Identify Security Requirements and Expectations
Identify Factors That Undermine Software Security
Find Vulnerabilities in Your Software
Gather Intelligence on Vulnerabilities and Exploits

2 Handling Vulnerabilities

Handle Vulnerabilities Due to Software Defects and Misconfiguration
Handle Vulnerabilities Due to Human Factors
Handle Vulnerabilities Due to Process Shortcomings

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3 Designing for Security

Apply General Principles for Secure Design
Design Software to Counter Specific Threats

4 Developing Secure Code

Follow Best Practices for Secure Coding
Prevent Platform Vulnerabilities
Prevent Privacy Vulnerabilities

5 Implementing Common Protections

Limit Access Using Login and User Roles
Protect Data in Transit and At Rest
Implement Error Handling and Logging
Protect Sensitive Data and Functions
Protect Database Access

6 Testing Software Security

Perform Security Testing
Analyze Code to find Security Problems
Use Automated Testing Tools to Find Security Problems

7 Maintaining Security in Deployed Software

Monitor and Log Applications to Support Security
Maintain Security after Deployment

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