

## CertNexus Certified Internet of Things Security Practitioner (CIoTSP) v1.0

### Overview

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This course is designed for practitioners who are seeking to demonstrate a vendor-neutral, cross-industry skill set that will enable them to design, implement, operate, and/or manage a secure IoT ecosystem.

### Prerequisite Comments

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To ensure your success in this course you should have a fundamental understanding of IoT ecosystems

### Target Audience

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This course is designed for IoT practitioners who are looking to improve their skills and knowledge of IoT security and privacy. This course is also designed for students who are seeking the CertNexus Certified Internet of Things Security Practitioner (CIoTSP) certification and who want to prepare for Exam ITS-110.

### Course Objectives

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This program will validate that the candidate has the knowledge, skills, and abilities to secure network environments for IoT devices, analyze vulnerabilities and determine reasonable controls against threats, and effectively monitor IoT devices and respond to incidents.

### Course Outline

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#### 1 - Managing IoT Risks

Map the IoT Attack Surface  
Build in Security by Design

#### 2 - Securing Web and Cloud Interfaces

Identify Threats to IoT Web and Cloud Interfaces  
Prevent Injection Flaws  
Prevent Session Management Flaws  
Prevent Cross-Site Scripting Flaws  
Prevent Cross-Site Request Forgery Flaws  
Prevent Unvalidated Redirects and Forwards

### 3 - Securing Data

- Use Cryptography Appropriately
- Protect Data in Motion
- Protect Data at Rest
- Protect Data in Use

### 4 - Controlling Access to IoT Resources

- Identify the Need to Protect IoT
- Implement Secure Authentication
- Implement Secure Authorization
- Implement Security Monitoring on IoT Systems

### 5 - Securing IoT Networks

- Ensure the Security of IP Networks
- Ensure the Security of Wireless Networks
- Ensure the Security of Mobile Networks
- Ensure the Security of IoT Edge Networks

### 6 - Ensuring Privacy

- Improve Data Collection to Reduce Privacy Concerns
- Protect Sensitive Data
- Dispose of Sensitive Data

### 7 - Managing Software and Firmware Risks

- Manage General Software Risks
- Manage Risks Related to Software Installation and Configuration
- Manage Risks Related to Software Patches and Updates
- Manage Risks Related to IoT Device Operating Systems and Firmware

### 8 - Promoting Physical Security

- Protect Local Memory and Storage
- Prevent Physical Port Access

## Related Courses, Certifications, Exams

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- CertNexus Certified Internet of Things Practitioner (CIoTP)