**Certified Wireless Security Engineer**



**Description:**,663,6629

A **Wireless Security Engineer** designs, implements, and maintains secure wireless networks. They assess security risks and vulnerabilities, configure security solutions, and ensure the confidentiality, integrity, and availability of data transmitted over wireless networks. This includes implementing security protocols such as WPA2,

802.1X, and others, monitoring network activity for security threats, and responding to security incidents. They also stay up to date with emerging security trends and technologies to continuously improve the security posture of their organization's wireless network.



**Annual Salary Potential** **$85,967 AVG/year**



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| --- | --- | --- | --- | --- | --- |
| **Key Course Information** | **Modules/Lessons** | | **Who Should Attend** | |  |
| **Live Class Duration:** 5 Days | **Module 01 - Business and** | | • | Coders |  |
| **CEUs:** 40 | **Technical Logistics** | | • | Application Engineers |  |
| **Language:** English |  |  | • | IS Managers |  |
| **Class Formats Available:** | **Module 02 - Wireless Security** | | • | Developers |  |
| Instructor Led | **Fundamentals** | | • | Programmers |  |
|  |  |  |  |  |
| Live Virtual Training | **Module 03** | **– Authentication** |  |  |  |
| **Suggested Prerequisites:** | **Module 04** | **– Encryption** |  |  |  |
|  |  |  |  |
| - Mile2’s C)SP | **Module 05** | **- WLAN Encryption** |  |  |  |
|  |  | **Accreditations** |  |
| - 12 months of Information Systems | **Implementations** | |  |  |
| Management Experience |  |  |  |  |  |
|  | **Module 07** | **- Reconnaissance and** |  |  |  |
|  | **Enumeration** | |  |  |  |

**Module 08 - Network Assessment**

**and Exploitation Techniques**

**(Modules 9 & 10 below)**



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**Upon Completion**

Upon completion, Certified Wireless Security Engineer students will not only be able to establish industry acceptable Cyber Security & IS management standards with current best practices but also be prepared to competently take the C)WSE exam.

**Exam Information**

The Certified Wireless Security Engineer exam is taken online through Mile2’s Learning Management System and is accessible on you Mile2.com account. The exam will take approximately 2 hours and consist of 100 multiple choice questions.

A minimum grade of 70% is required for certification.

**Re-Certification**

**Requirements**

All Mile2 certifications will be awarded a 3-year expiration date. There are two requirements to maintain Mile2 certification:

1. Pass the most current version of the exam for your respective existing certification.
2. Earn and submit 20 CEUs per year in your Mile2 account.



**Course FAQ’s**

**Question:** Do I have to purchase a course to buy a certification exam?

**Answer**: No

**Question:** Do all Mile2 courses map to a role-based career path?

**Answer**: Yes. You can find the career path and other courses associated with it at [www.mile2.com.](http://www.mile2.com/)

**Question:** Are all courses available as self-study courses?

**Answer**: Yes. There is however 1 exception. The Red Team vs Blue Team course is only available as a live class.

**Question:** Are Mile2 courses transferable/shareable?

**Answer**: No. The course materials, videos, and exams are not meant to be shared or transferred.

**Course and Certification Learning Options**



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**Detailed Outline:**

**Course Introduction**

**Module 01 - Business and Technical Logistics of Wireless Pen Testing**

Section 01 - What is Penetration Testing?

Section 02 - Today’s Threats

Section 03 - Pen Testing Methodology

Section 04 - Wireless Standards and Organizations

**Module 02 - Wireless Security Fundamentals**

Section 01 - Wireless Security Fundamentals

Section 02 - WLAN Security Policy

Section 03 - RF Components

Section 04 - RF Signal and Antenna Concepts

Section 05 - Spread Spectrum Technologies

Section 06 - IEE 802.11 Standards

Section 07 - IEEE 802.15 Standards Bluetooth

**Module 03 - Authentication**

Section 01 - WLAN Authentication Overview

Section 02 - 802.1x

Section 03 - EAP

Section 04 - Key Management

**Module 04 - Encryption**

Section 01 - Cryptography Overview

Section 02 - Symmetric Encryption

Section 03 - Asymmetric Cryptography

**Module 05 - WLAN Encryption Implementations**

Section 01 - WPA2

Section 02 - WPA3

Section 03 - Sniffing

Section 04 - Authentication Attacks

Section 05 - Threat Assessments



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**Module 07 - Reconnaissance and Enumeration**

Section 01 - What are we looking for?

Section 02 - Keeping Track of what we find!

Section 03 - Where/How do we find this information?

Section 04 - Passive Scanning: Are there tools to help?

Section 05 - Passive Recon Countermeasures

Section 06 - Reaching Out!

Section 07 - Port Scanning

Section 08 - Active Scanning: Are there tools to help?

Section 09 - Active Recon Countermeasures

Section 10 - Banner Grabbing

Section 11 - Enumeration

**Module 08 - Network Assessment and Exploitation Techniques**

Section 01 - Exploits

Section 02 - WiFi Tools

Section 03 - Wi-Fi Exploits

Section 04 - Exploit Framework

**Module 09 - Evasion Techniques**

Section 01 - Evading Firewalls

Section 02 - Evading Honeypots

Section 03 - Evading IDS

**Module 10 - Monitoring and Auditing WLANS**

Section 01 - Monitoring

Section 02 - Auditing

Section 03 - Secure Roaming

Section 04 - WLAN Security Recommendations and Designs



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**CYBER RANGE - WIRELESS LABS**

Lab 01 - Introduction to Pen Testing Setup

Lab 02 - Using Tools for Reporting (Optional)

Lab 03 - Wireless Authentication Capture

Lab 04 - Information Gathering (Optional)

Lab 05 - Detecting Live Systems - Scanning Techniques

Lab 06 - Enumeration

Lab 07 - Wireless Scanning with Different Systems

Lab 08 - Decrypting Wi-Fi Traffic

Lab 09 - Cracking WPA2

Lab 10 - Windows System Hacking

Lab 11 - Advanced Vulnerability and Exploitation Techniques

Lab 12 - AntiVirus Bypass

Lab 13 - Cracking Passwords from a Linux System

Lab 14 - Network Sniffing/IDS

Lab 15 - WiFi Audit with hcxdumptool

Final Lab - WarDrive, Scanning, Setup Evil Twin, Enterprise Attack



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