COMPLIANCE STANDARDS

UPDATED 5/6/2024



COURSE TITLE

CWE OWASP NIST* PCI ISO NERC HIPAA GDPR MITRE

| SECURITY PRINCIPLES | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|--|
| AWA 101. Fundamentals of Application Security | √ | √ | | √ | | | √ | ✓ | |
| AWA 102. Secure Software Concepts | √ | √ | √ | √ | √ | √ | | ✓ | |
| COD 102. Challenges in Application Security | √ | √ | | | | | | | |
| COD 103. Creating Software Security Requirements | √ | √ | ✓ | √ | ✓ | √ | | | |
| COD 104. Designing Secure Software | √ | √ | ✓ | √ | √ | √ | | | |
| COD 105. Secure Software Development | √ | √ | √ | √ | ✓ | √ | | | |
| COD 106. The Importance of Integration and Testing | √ | | ✓ | √ | √ | √ | | | |
| COD 107. Secure Software Deployment | | | ✓ | √ | √ | √ | | | |
| COD 108. Software Operations and Maintenance | | | √ | √ | √ | √ | | | |
| ENG 110. Essential Account Management Security | | | √ | | | | | | |
| ENG 111. Essential Session Management Security | | | √ | | | | | | |
| ENG 112. Essential Access Controls for Mobile Devices | | | ✓ | | | | | | |
| ENG 113. Essential Secure Configuration Management | | | ✓ | | | | | | |
| ENG 114. Essential Risk Assessment | | | ✓ | | | | | ✓ | |
| ENG 115. Essential System and Information Integrity | | | √ | | | | | | |
| ENG 116. Essential Security Planning Policy and Procedures | | | √ | | | | | | |
| ENG 117. Essential Information Security Program Planning | | | √ | | | | | | |
| ENG 118. Essential Incident Response | | | ✓ | | | | | | |
| ENG 119. Essential Security Audit and Accountability | | | ✓ | | | | | | |
| ENG 120. Essential Personnel Security Policy and Procedures | | | √ | | | | | | |
| ENG 121. Essential Identification and Authentication | | | √ | | | | | | |
| ENG 122. Essential Physical and Environmental Protection | | | √ | | | | | | |
| ENG 123. Essential Secure Software Engineering Principles | | | √ | | | | | | |
| ENG 124. Essential Application Protection | | | √ | | | | | | |
| ENG 125. Essential Data Protection | | | √ | | | | | ✓ | |
| ENG 126. Essential Security Maintenance Policies | | | √ | | | | | | |
| ENG 127. Essential Media Protection | | | ✓ | | | | | | |
| ENG 150. Meeting Confidentiality, Integrity and Availability Requirements | | | ✓ | √ | √ | √ | √ | ✓ | |
| ENG 151. Fundamentals of Privacy Protection | | √ | √ | | | | | √ | |

| SECURE DEVELOPMENT | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|--|
| API 210. Mitigating APIs Lack of Resources & Rate Limiting | | √ | √ | | | | | | |
| API 211. Mitigating APIs Broken Object Level Authorization | | √ | √ | | | | | | |
| API 213. Mitigating APIs Mass Assignment | | √ | √ | | | | | | |
| API 214. Mitigating APIs Improper Asset Management | | √ | √ | | | | | | |
| COD 110. Fundamentals Secure Mobile Development | √ | √ | √ | √ | √ | √ | | ✓ | |
| COD 141. Fundamentals of Database Security | | | | √ | | | | ✓ | |
| COD 152. Fundamentals of Secure Cloud Development | √ | √ | √ | | √ | √ | √ | ✓ | |
| COD 160. Fundamentals of Secure Embedded Software Development | √ | √ | √ | √ | √ | √ | | ✓ | |
| COD 170. Identifying Threats to Mainframe COBOL Applications and Data | ✓ | √ | √ | √ | √ | √ | | | |
| COD 201. Secure C Encrypted Network Communications | √ | √ | √ | √ | | | | | |
| COD 202. Secure C Run-Time Protection | √ | √ | √ | √ | | | | | |
| COD 206. Creating Secure C++ Code | √ | √ | | | | | | | |
| COD 207. Communication Security in C++ | √ | √ | √ | √ | | | | | |
| COD 214. Creating Secure GO Applications | √ | √ | | | | | | | |
| COD 215. Mitigating .NET Application Vulnerabilities (NEW) | | √ | √ | √ | | | | | |
| COD 219. Creating Secure Code SAP ABAP Foundations | √ | √ | | √ | | | | | |
| COD 241. Creating Secure Oracle Database Applications | ✓ | √ | √ | √ | √ | √ | √ | ✓ | |
| COD 242. Creating Secure SQL Server and Azure SQL Database Applications | | | | | | | | ✓ | |
| COD 246. PCI DSS Requirement 3: Protecting Stored Cardholder Data | ✓ | √ | √ | √ | √ | √ | √ | ✓ | |
| COD 247. PCI DSS Requirement 3: Encrypting Transmission of Cardholder Data | √ | ✓ | |
| COD 248. PCI DSS Requirement 6: Develop & Maintain Secure Systems & Applications | √ | √ | √ | √ | √ | √ | | | |
| COD 249. PCI DSS Requirement 11: Regularly Test Security Systems and Processes | | | √ | √ | √ | √ | | | |
| COD 251. Defending AJAX-Enabled Web Applications | √ | √ | √ | √ | √ | √ | | ✓ | |
| COD 252. Securing Google Platforms Applications & Data | ✓ | √ | √ | | √ | √ | | ✓ | |
| COD 253. Creating Secure AWS Cloud Applications | √ | √ | √ | | √ | √ | | ✓ | |
| COD 254. Creating Secure Azure Applications | ✓ | √ | √ | √ | √ | √ | √ | ✓ | |
| COD 255. Creating Secure Code Web API Foundations | ✓ | √ | √ | | √ | √ | | | |
| COD 256. Creating Secure Code Ruby on Rails Foundations | √ | √ | √ | | √ | √ | | | |
| COD 257. Creating Secure Python Web Applications | √ | √ | √ | √ | √ | √ | | | |
| COD 258. Creating Secure PHP Web Applications | | √ | √ | √ | √ | √ | | | |
| COD 259. Node.js Threats and Vulnerabilities | √ | ✓ | |
| COD 261. Threats to Scripts | √ | √ | | √ | | | | | |

| SECURE DEVELOPMENT (continued) | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|--|
| COD 262. Fundamentals of Shell and Interpreted Language Security | √ | √ | | √ | | | | | |
| COD 263. Secure Bash Scripting | ✓ | √ | | 1 | | | | | |
| COD 264. Secure Perl Scripting | ✓ | ✓ | | √ | | | | | |
| COD 265. Secure Python Scripting | ✓ | ✓ | | √ | | | | | |
| COD 266. Secure Ruby Scripting | ✓ | √ | | 1 | | | | | |
| COD 267. Securing Python Microservices | ✓ | √ | | | | | | | |
| COD 268. Mitigating TypeScript Application Vulnerabilities | | √ | √ | 1 | | | | | |
| COD 270. Creating Secure COBOL and Mainframe Applications | ✓ | √ | √ | 1 | √ | √ | | | |
| COD 283. Java Cryptography | ✓ | ✓ | √ | | √ | √ | √ | √ | |
| COD 284. Secure Java Coding | ✓ | √ | √ | | √ | √ | √ | √ | |
| COD 285. Developing Secure Angular Applications | | √ | | 1 | | | | | |
| COD 286. Creating Secure React User Interfaces | | √ | | 1 | | | | | |
| COD 287. Java Application Server Hardening | ✓ | √ | √ | 1 | | | | | |
| COD 288. Java Public Key Cryptogrpahy | | √ | √ | | | | | | |
| COD 301. Secure C Buffer Overflow Mitigations | ✓ | √ | | | | | | | |
| COD 302. Secure C Memory Management | ✓ | | | √ | | | | | |
| COD 303. Common C Vulnerabilities and Attacks | ✓ | ✓ | | | | | | | |
| COD 304. Principles of C++ Memory Safety | | √ | √ | 1 | | | | | |
| COD 305. C++ Secure Memory Management | | √ | √ | 1 | | | | | |
| COD 306. C++ Memory Safety: Debugging Tools and Techniques | | √ | √ | 1 | | | | | |
| COD 307. Protecting Data in C++ | ✓ | √ | | | | | | | |
| COD 308. Common ASP.NET Vulnerabilities and Attacks | ✓ | ✓ | √ | √ | ✓ | √ | √ | | |
| COD 309. Securing ASP.NET MVC Applications (UPDATED) | ✓ | √ | √ | 1 | √ | √ | √ | | |
| COD 315. Preventing Vulnerabilities in iOS Code in Swift | ✓ | √ | √ | 1 | √ | √ | | | |
| COD 316. Creating Secure iOS Code in Objective C | ✓ | √ | √ | 1 | √ | √ | √ | ✓ | |
| COD 317. Protecting Data on iOS in Swift | ✓ | √ | √ | 1 | √ | √ | | | |
| COD 318. Protecting Data on Android in Java (UPDATED) | | √ | √ | √ | √ | √ | | ✓ | |
| COD 319. Preventing Vulnerabilities in Android Code in Java (UPDATED) | | √ | √ | √ | √ | √ | | | |
| COD 321. Protecting C# from Integer Overflows and Canonicalization Issues | ✓ | √ | √ | √ | √ | √ | √ | ✓ | |
| COD 322. Protecting C# from SQL Injection | ✓ | √ | |
| COD 323. Using Encryption with C# | ✓ | √ | |
| COD 324. Protecting C# from XML Injection | ✓ | √ | |

| SECURE DEVELOPMENT (continued) | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|--|
| COD 352. Creating Secure JavaScript and jQuery Code | ✓ | √ | √ | √ | √ | √ | | |
| COD 361. HTML5 Security Threats | ✓ | √ | √ | √ | √ | √ | | |
| COD 362. HTML5 Built-In Security Features | ✓ | √ | √ | √ | √ | √ | | |
| COD 363. Securing HTML5 Data | ✓ | √ | √ | √ | √ | √ | | |
| COD 364. Securing HTML5 Connectivity | ✓ | √ | ✓ | √ | ✓ | √ | | |
| COD 366. Creating Secure Kotlin Applications | | √ | | √ | | | | |
| COD 380. Preventing SQL Injection in Java | √ | √ | √ | | | | | |
| COD 381. Preventing Path Traversal Attacks in Java | ✓ | √ | √ | | | | | |
| COD 382. Protecting Data in Java | ✓ | √ | | | | | | |
| COD 383. Protecting Java Backend Services | ✓ | √ | √ | √ | | | | |
| COD 384. Protecting Java from Information Disclosure | ✓ | √ | √ | | | | | |
| COD 385. Preventing Race Conditions in Java Code | √ | √ | √ | | | | | |
| COD 386. Preventing Integer Overflows in Java Code | ✓ | √ | √ | | | | | |
| DES 207. Mitigating OWASP API Security Top 10 | | √ | √ | | | | | |
| DES 208. Defending Against the CSA Top 11 Threats to Cloud | | | √ | | | | | |
| DES 232. Mitigating OWASP 2021 Injection | ✓ | √ | √ | √ | | | | |
| DES 233. Mitigating OWASP 2021 Identification and Authentication Failures | ✓ | √ | √ | √ | | | | |
| DES 234. Mitigating OWASP 2021 Cryptographic Failures | ✓ | √ | √ | √ | | | √ | |
| DES 235. Mitigating OWASP 2021 Insecure Design | ✓ | √ | √ | | | | | |
| DES 236. Mitigating OWASP 2021 Broken Access Control | ✓ | √ | √ | √ | | | | |
| DES 237. Mitigating OWASP 2021 Security Misconfiguration | ✓ | √ | √ | √ | | | | |
| DES 238. Mitigating OWASP 2021 Server-Side Request Forgery (SSRF) | ✓ | √ | √ | | | | | |
| DES 239. Mitigating OWASP 2021 Software and Data Integrity Failures | | √ | | | | | | |
| DES 240. Mitigating OWASP 2021 Vulnerable and Outdated Components | | √ | √ | √ | | | | |
| DES 241. Mitigating OWASP 2021 Security Logging and Monitoring Failures | | √ | √ | √ | | | | |
| DES 271. OWASP M1: Mitigating Improper Platform Usage | | √ | | | | | | |
| DES 272. OWASP M2: Mitigating Insecure Data Storage | | √ | | | | | | |
| DES 273. OWASP M3: Mitigating Insecure Communication | | √ | | | | | | |
| DES 274. OWASP M4: Mitigating Insecure Authentication | | √ | | | | | | |
| DES 275. OWASP M5: Mitigating Insufficient Cryptography | | √ | | | | | | |
| DES 276. OWASP M6: Mitigating Insecure Authorization | | √ | | | | | | |
| DES 277. OWASP M7: Mitigating Client Code Quality | | √ | | | | | | |

| SECURE DEVELOPMENT (continued) | | | | | | |
|---|---|----------|--|--|----------|--|
| DES 278. OWASP M8: Mitigating Code Tampering | ✓ | | | | | |
| DES 279. OWASP M9: Mitigating Reverse Engineering | ✓ | | | | | |
| DES 280. OWASP M10: Mitigating Extraneous Functionailty | ✓ | | | | | |
| DES 281. OWASP IoT1: Mitigating Weak, Guessable or Hardcoded Passwords | ✓ | | | | | |
| DES 282. OWASP IoT2: Mitigating Insecure Network Services | ✓ | | | | | |
| DES 283. OWASP IoT3: Mitigating Insecure Ecosystem Interfaces | ✓ | | | | | |
| DES 284. OWASP IoT4: Mitigating Lack of Secure Update Mechanism | ✓ | | | | | |
| DES 285. OWASP IoT5: Mitigating Use of Insecure or Outdated Components | ✓ | | | | | |
| DES 286. OWASP IoT6: Mitigating Insufficient Privacy Protection | ✓ | | | | | |
| DES 287. OWASP IoT7: Mitigating Insecure Data Transfer and Storage | ✓ | | | | √ | |
| DES 288. OWASP IoT8: Mitigating Lack of Device Management | ✓ | | | | | |
| DES 289. OWASP IoT9: Mitigating Insecure Default Settings | ✓ | | | | | |
| DES 290. OWASP IoT10: Mitigating Lack of Physical Hardening | ✓ | | | | | |
| DES 361. Mitigating LCNC (Low-Code/No-Code) Account Impersonation | ✓ | √ | | | | |
| DES 362. Mitigating LCNC (Low-Code/No-Code)) Authorization Misuse | ✓ | √ | | | | |
| DES 364. Mitigating LCNC Authentication and Secure Communication Failures | ✓ | √ | | | | |

| SECURE DESIGN | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|--|
| CYB 210. Cybersecurity Incident Response | | | √ | | | | | | |
| CYB 211. Identifying and Protecting Assets Against Ransonmware | | | √ | | | | | | |
| CYB 212. Fundamentals of Security Information & Event Management (SIEM) | | | √ | | | | | | |
| DES 101. Fundamentals of Secure Architecture | | | √ | √ | √ | | | √ | |
| DES 151. Fundamentals of the PCI Secure SLC Standard | √ | | √ | √ | | | | | |
| DES 202. Cryptographic Suite Services: Encoding, Encrypting and Hashing | √ | |
| DES 203. Cryptographic Components: Randomness, Algorithms, & Key Management | √ | |
| DES 204. The Role of Cryptography in Application Development | √ | ✓ | |
| DES 205. Message Integrity Crytographic Functions | √ | |
| DES 206. Meeting Cloud Governance and Compliance Requirements | | | √ | | | | | | |
| DES 209. Authentication and Lifecycle Management | | | √ | | | | | | |
| DES 255. Securing the IoT Update Process | | √ | √ | | | | | | |
| DES 262. Securing Enterprise Low-Code Application Platforms | | | √ | | | | | | |
| DES 305. Blockchain Security - Protecting Existing Blockchain Assets | √ | √ | √ | √ | | | | ✓ | |

| SECURE DESIGN (continued) | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| DES 311. Creating Secure Application Architecture | | | √ | √ | √ | √ | | ✓ |
| DES 312. Protecting Cardholder Data | | | | √ | | | | |
| DES 313. Hardening a Kubernetes Cluster | | | √ | | | | | |
| ENG 191. Introduction to the Microsoft SDL | | | √ | √ | √ | √ | | |
| ENG 192. Implementing the MS SDL Optimization Model | | | √ | √ | √ | √ | | √ |
| ENG 193. Implementing the Agile MS SDL | | | √ | √ | √ | √ | | √ |
| ENG 194. Implementing MS SDL Line of Business | | | √ | √ | √ | √ | | √ |
| ENG 195. Implementing the MS SDL Threat Modeling Tool | | | √ | √ | √ | √ | | √ |
| ENG 205. Fundamentals of Threat Modeling | | | | | | | | √ |
| ENG 211. How to Create Application Security Design Requirements | | √ |
| ENG 212. Implementing Secure Software Operatiions | √ | √ | √ | √ | | | | |
| ENG 251. Risk Management Foundations | | | √ | | | | | |
| ENG 311. Attack Surface Analysis and Reduction | | √ | | √ | | | | ✓ |
| ENG 312. How to Perform a Security Code Review | √ | √ | √ | √ | √ | √ | | ✓ |
| ENG 320. Using Software Composition Analysis to Secure Open-Source Components | √ | √ | √ | √ | | | | |
| ENG 351. Preparing the Risk Management Framework | | | √ | | | | | |
| ENG 352. Categorizing Systems and Information within the RMF | | | √ | √ | | | | √ |
| ENG 353. Selecting, Implementing, and Assessing Controls within the RMF | | √ | √ | √ | | | | √ |
| ENG 354. Authorizing and Monitoring System Controls within the RMF | | √ | √ | √ | | | | ✓ |

| INFRASTRUCTURE SECURITY | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|--|
| API 250. Controlling Access to the Kubernetes API | | √ | √ | | | | | | |
| API 251. Implementing Web Application and API Protection (WAAP) | | ✓ | √ | | | | | | |
| DES 210. Hardening Linux/Unix Systems | √ | ✓ | √ | √ | | | | ✓ | |
| DES 212. Architecture Risk Analysis and Remediation | | ✓ | √ | √ | ✓ | √ | √ | ✓ | |
| DES 214. Securing Infrastructure Architecture | | | √ | √ | ✓ | √ | √ | √ | |
| DES 215. Defending Infrastructure | | | √ | √ | ✓ | √ | √ | √ | |
| DES 216. Protecting Cloud Infrastructure | | | √ | √ | √ | √ | √ | √ | |
| DES 217. Securing Terraform Infrastructure and Resources | | | √ | | | | | | |
| DES 218. Protecting Microservices, Containers, and Orchestration | | | √ | √ | √ | √ | √ | √ | |
| DES 219. Securing Google's Firebase Platform | | | √ | | √ | | | | |
| DES 260. Fundamentals of IoT Architecture and Design | √ | ✓ | |

| INFRASTRUCTURE SECURITY (continued) | | | | | | | |
|--|----------|----------|----------|----------|--|----------|--|
| DES 261. Securing Serverless Environments | | √ | √ | | | | |
| DES 306. Creating a Secure Blockchain Network | √ | √ | √ | √ | | ✓ | |
| DES 314. Hardening the Docker Engine | | | √ | | | | |
| ICS 210. ICS/SCADA Security Essentials | | | √ | | | | |
| ICS 310. Protecting Information and System Integrity in Industrial Control System Environments | | | √ | | | | |

| DevSecOps | | | | | | | |
|--|----------|----------|----------|----------|--|----------|--|
| CYB 213. Generative Al Privacy & Cybersecurity Risk (NEW) | | | √ | | | ✓ | |
| CYB 310. Using Cyber Supply Chain Risk Management to Mitigate Threats to IT/OT | | | ✓ | | | | |
| CYB 311. Threat Analysis with Artificial Intelligence | | | √ | | | | |
| DSO 201. Fundamentals of Secure DevOps | | | ✓ | ✓ | | | |
| DSO 205. Securing the COTS Supply Chain | ✓ | ✓ | ✓ | | | | |
| DSO 206. Securing the Open Source Software Supply Chain | | ✓ | √ | | | | |
| DSO 211. Identifying Threats to Containers and Data in a DevSecOps Framework | ✓ | ✓ | √ | ✓ | | | |
| DSO 212. Fundamentals of Zero Trust Security | | | √ | | | | |
| DSO 253. DevSecOps in the AWS Cloud | | √ | √ | | | ✓ | |
| DSO 254. DevSecOps in the Azure Cloud | | ✓ | √ | | | ✓ | |
| DSO 256. DevSecOps in the Google Cloud Platform | | ✓ | √ | | | ✓ | |
| DSO 301. Orchestrating Secure System and Service Configuration | | √ | √ | ✓ | | | |
| DSO 302. Automated Security Testing | | | √ | ✓ | | | |
| DSO 303. Automating Security Updates | ✓ | | ✓ | ✓ | | | |
| DSO 304. Securing API Gateways in a DevSecOps Framework | ✓ | √ | ✓ | | | | |
| DSO 305. Automating CI/CD Pipeline Compliance | | √ | √ | | | ✓ | |
| DSO 306. Implementing Infrastructure as Code | | | √ | | | | |
| DSO 307. Secure Secrets Management | | | √ | √ | | | |

| SECURITY TESTING | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|
| ATK 201. Fundamentals of Security Testing | | | ✓ | ✓ | | | | | ✓ |
| CYB 250. Cyber Threat Hunting: Tactics, Techniques, and Procedures (TTP) | | | ✓ | | | | | | ✓ |
| CYB 301. Fundamentals of Ethical Hacking | | | ✓ | ✓ | | | | | ✓ |
| SDT 301. Testing for Injection | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 302. Testing for Identification and Authentication Failures | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |

| SECURITY TESTING (continued) | | | | | | | | | |
|--|---|---|---|---|---|---|----------|---|--|
| SDT 303. Testing for Cryptographic Failures | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | √ | ✓ | |
| SDT 304. Testing for Insecure Design | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 305. Testing for Broken Access Control | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 306. Testing for Security Miscconfiguration | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 307. Testing for Server-Side Request Forgery | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 308. Testing for Software and Data Integrity Failures | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 309. Testing for Vulnerable and Outdate Components | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 310. Testing for Security Logging and Monitoring Failures | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SDT 311. Testing for Integer Overflow or Wraparound | ✓ | ✓ | ✓ | ✓ | | | | | |
| SDT 312. Testing for Path Traversal | ✓ | | | | | | | | |
| SDT 313. Testing for Cross Site Request Forgery | ✓ | | | | | | | | |
| SDT 314. Testing for Unrestricted Upload of File with Dangerous Type | ✓ | ✓ | | | | | | | |
| SDT 315. Testing for Incorrect Permission Assignment for Critical Resource | ✓ | ✓ | | | | | | | |
| SDT 316. Testing for Use of Hard-Coded Credentials | ✓ | | | | | | | | |
| SDT 317. Testing for Improper Control of Generation of Code ("Code Injection") | ✓ | ✓ | | ✓ | | | | | |
| SDT 318. Testing for Insufficiently Protected Credentials | ✓ | ✓ | | ✓ | | | | | |
| SDT 319. Testing for Out-of-bound Read | ✓ | ✓ | | ✓ | | | | | |
| SDT 320. Testing for Out-of-bounds Write | ✓ | ✓ | | ✓ | | | | | |
| SDT 321. Testing for Uncontrolled Resource Consumption | ✓ | ✓ | | ✓ | | | | | |
| SDT 322. Testing for Improper Privilege Management | ✓ | ✓ | | ✓ | | | | | |
| SDT 323. Testing for Improper Input Validation | ✓ | ✓ | | ✓ | | | | | |
| SDT 324. Testing for Improper Restriction of Operations within the Bounds of a Memory Buffer | ✓ | ✓ | | ✓ | | | | | |
| SDT 325. Testing for NULL Pointer Dereference | ✓ | ✓ | | ✓ | | | | | |
| SDT 326. Testing for Use After Free | ✓ | ✓ | | ✓ | | | | | |
| TST 101. Fundamentals of Security Testing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| TST 202. Penetration Testing Fundamentals | ✓ | ✓ | ✓ | | | | | | |
| TST 205. Performing Vulnerability Scans | ✓ | | ✓ | | | | | | |
| TST 206. ASVS Requirements for Developers | | ✓ | | ✓ | | | | | |
| TST 301. Infrastructure Penetration Testing | ✓ | | ✓ | ✓ | | | | ✓ | |
| TST 302. Application Penetration Testing | ✓ | | ✓ | ✓ | | | | ✓ | |
| TST 303. Penetration Testing for Google Cloud Platform | | | ✓ | | | | | | |
| TST 304. Penetration Testing for AWS Cloud | | | ✓ | | | | | | |

| SECURITY TESTING (continued) | | | | | | |
|--|---|---|---|--|--|--|
| TST 305. Penetration Testing for Azure Cloud | | | ✓ | | | |
| TST 351. Penetration Testing for TLS Vulnerabilities | ✓ | ✓ | ✓ | | | |
| TST 352. Penetration Testing for Injection Vulnerabilities | ✓ | ✓ | ✓ | | | |
| TST 353. Penetration Testing for SQL Injection | | ✓ | | | | |
| TST 354. Penetration Testing for Memory Corruption Vulnerabilities | ✓ | | ✓ | | | |
| TST 355. Penetration Testing for Authorization Vulnerabilities | ✓ | ✓ | ✓ | | | |
| TST 356. Penetration Testing for XSS | ✓ | ✓ | | | | |
| TST 357. Penetration Testing for Hardcoded Secrets | ✓ | | ✓ | | | |
| TST 358. Penetration Testing Wireless Networks | ✓ | | ✓ | | | |
| TST 359. Penetration Testing Network Infrastructure | ✓ | | ✓ | | | |
| TST 360. Penetration Testing for Authentication Vulnerabilities | ✓ | | ✓ | | | |

| LEARN LABS | | | | | | |
|---|---|---|---|--|--|---|
| LAB 111. Identifying Server-Side Request Forgery | ✓ | ✓ | ✓ | | | ✓ |
| LAB 113. Identifying Cryptographic Failures | ✓ | ✓ | ✓ | | | ✓ |
| LAB 114. Identifying Cookie Tampering | ✓ | ✓ | ✓ | | | ✓ |
| LAB 115. Identifying Reflective Cross-Site Scripting (XSS) | ✓ | ✓ | ✓ | | | ✓ |
| LAB 116. Identifying Forceful Browsing | ✓ | ✓ | ✓ | | | ✓ |
| LAB 117. Identifying Hidden Form Field | ✓ | ✓ | ✓ | | | ✓ |
| LAB 118. Identifying Weak File Upload Validation | ✓ | ✓ | ✓ | | | ✓ |
| LAB 119. Identifying Persistent Cross-Site Scripting (XSS) | ✓ | ✓ | ✓ | | | ✓ |
| LAB 120. Identifying XML Injection | ✓ | ✓ | ✓ | | | ✓ |
| LAB 121. Identifying Vulnerable and Outdated Components | | ✓ | ✓ | | | ✓ |
| LAB 122. Identifying Insecure APIs | | ✓ | ✓ | | | ✓ |
| LAB 123. Identifying Vertical Privilege Escalation | | ✓ | ✓ | | | ✓ |
| LAB 124. Identifying Horizontal Privilege Escalation | ✓ | ✓ | ✓ | | | ✓ |
| LAB 125. Identifying Buffer Overflow | ✓ | ✓ | ✓ | | | ✓ |
| LAB 126. Identifying Information Leakage | ✓ | ✓ | ✓ | | | ✓ |
| LAB 127. Identifying Security Logging and Monitoring Failures | ✓ | ✓ | | | | |
| LAB 128. Identifying Unverified Password Change | ✓ | ✓ | | | | |
| LAB 129. Identifying Error Message Containing Sensitive Information | ✓ | ✓ | | | | |
| LAB 130. Identifying Generation of Predictable Numbers or Identifiers | ✓ | ✓ | | | | |

| LEARN LABS (continued) | | | | | | |
|--|---|---|---|--|--|----------|
| LAB 131. Identifying Improper Restriction of XML External Entity Reference | ✓ | ✓ | | | | √ |
| LAB 132. Identifying Exposed Services | | | | | | ✓ |
| LAB 133. Identifying Exposure of Sensitive Information Through Environmental Variables | ✓ | ✓ | ✓ | | | √ |
| LAB 134. Identifying Plaintext Storage of a Password | ✓ | ✓ | ✓ | | | √ |
| LAB 135. Identifying URL Redirection to Untrusted Site | ✓ | ✓ | ✓ | | | √ |
| LAB 136. Identifying Improper Neutralization of Script in Attributes in a Web Page | ✓ | ✓ | ✓ | | | √ |
| LAB 137. Identifying Improper Authorization | ✓ | ✓ | ✓ | | | √ |
| LAB 138. Identifying Authorization Bypass Through User-Controlled Key | ✓ | ✓ | ✓ | | | |
| LAB 139. Identifying Use of a Key Past its Expiration Date | ✓ | ✓ | ✓ | | | √ |

| SKILL LABS | | | | | | |
|--|----------|----------|----------|--|--|----------|
| LAB 201. Defending Java Applications Against Canonicalization | ✓ | | ✓ | | | |
| LAB 202. Defending Python Applications Against Canonicalization | ✓ | | ✓ | | | |
| LAB 203. Defending C# Applications Against Canonicalization | ✓ | | ✓ | | | |
| LAB 204. Defending Node.js Applications Against Canonicalization | ✓ | | √ | | | |
| LAB 205. Defending Java Applications Against XPath Injection | | √ | ✓ | | | |
| LAB 206. Defending Python Applications Against XPath Injection | | √ | ✓ | | | |
| LAB 207. Defending Node.js Applications Against XPath Injection | | √ | ✓ | | | |
| LAB 208. Defending C# Applications Against XPath Injection | | √ | ✓ | | | |
| LAB 211. Defending Java Applications Against Credentials in Code Medium | √ | √ | √ | | | √ |
| LAB 212. Defending Python Applications Against Credentials in Code Medium | √ | √ | ✓ | | | √ |
| LAB 213. Defending Node.js Applications Against Credentials in Code Medium | √ | √ | ✓ | | | √ |
| LAB 214. Defending C# Applications Against Credentials in Code Medium | √ | √ | ✓ | | | ✓ |
| LAB 215. Defending Java Applications Against Business Logic Error for Input Validation | √ | √ | ✓ | | | √ |
| LAB 216. Defending Python Applications Against Business Logic Error for Input Validation | ✓ | √ | √ | | | √ |
| LAB 217. Defending Node.js Applications Against Business Logic Error for Input Validation | ✓ | ✓ | ✓ | | | ✓ |
| LAB 218. Defending C# Applications Against Business Logic Error for Input Validation | ✓ | √ | ✓ | | | ✓ |
| LAB 220. Defending Against Hard-Coded Secrets (HTML5) | ✓ | √ | | | | |
| LAB 221. Defending C# Against SQL Injection | ✓ | √ | ✓ | | | |
| LAB 224. Defending Java Applications Against Forceful Browsing | ✓ | √ | ✓ | | | ✓ |
| LAB 225. Defending Python Applications Against Forceful Browsing | ✓ | √ | ✓ | | | √ |
| LAB 226. Defending Node.js Applications Against Forceful Browsing | ✓ | ✓ | ✓ | | | √ |

| SKILL LABS (continued) | | | | | | |
|--|----------|----------|----------|--|--|---|
| LAB 227. Defending C# Applications Against Forceful Browsing | ✓ | √ | ✓ | | | ✓ |
| LAB 222. Defending Python Against SQL Injection | ✓ | √ | ✓ | | | |
| LAB 223. Defending Node.js Against SQL Injection | ✓ | ✓ | ✓ | | | |
| LAB 228. Defending Java Applications Against Weak AES ECB Mode Encryption | ✓ | √ | | | | |
| LAB 229. Defending Java Applications Against Weak PRNG | ✓ | √ | | | | |
| LAB 230. Defending Java Against Cross-Site Scripting (XSS) | ✓ | √ | | | | |
| LAB 231. Defending Python Against Cross-Site Scripting (XSS) | ✓ | √ | | | | |
| LAB 232. Defending C# Against Cross-Site Scripting (XSS) | ✓ | √ | | | | |
| LAB 233. Defending Node.js Against Cross-Site Scripting (XSS) | ✓ | √ | | | | |
| LAB 234. Defending Java Applications Against Parameter Tampering | √ | √ | 1 | | | |
| LAB 235. Defending Java Applications Against Plaintext Password Storage | √ | √ | 1 | | | |
| LAB 236. Defending Java Applications Against Sensitive Information in Error Messages | √ | √ | | | | |
| LAB 237. Defending Java Against SQL Injection | √ | √ | | | | |
| LAB 238. Defending C# Applications Against Weak AES ECB Mode Encryption | √ | √ | 1 | | | |
| LAB 239. Defending C# Applications Against Weak PRNG | ✓ | √ | √ | | | |
| LAB 240. Defending Java Against ExternalXML Entity Vulnerabilities | √ | √ | 1 | | | |
| LAB 241. Defending C# Against ExternalXML Entity Vulnerabilities | √ | √ | 1 | | | |
| LAB 242. Defending Node.js Against ExternalXML Entity Vulnerabilities | √ | √ | 1 | | | |
| LAB 243. Defending Python Against ExternalXML Entity Vulnerabilities | √ | √ | 1 | | | |
| LAB 244. Defending Java Against Security Misconfiguration | √ | √ | 1 | | | |
| LAB 245. Defending Node.js Applications Against Plaintext Password Storage | √ | √ | 1 | | | |
| LAB 246. Defending Node.js Applications Against Weak AES ECB Mode Encryption | √ | √ | 1 | | | |
| LAB 247. Defending Node.js Applications Against Weak PRNG | ✓ | √ | √ | | | |
| LAB 248. Defending Node.js Applications Against Parameter Tampering | ✓ | √ | √ | | | |
| LAB 249. Defending Python Applications Against Plaintext Password Storage | ✓ | √ | √ | | | |
| LAB 250. Defending C# Applications Against Parameter Tampering | ✓ | √ | √ | | | |
| LAB 251. Defending C# Applications Against Plaintext Password Storage | ✓ | √ | √ | | | |
| LAB 252. Defending Python Applications Against Weak AES ECB Mode Encryption | ✓ | √ | √ | | | |
| LAB 253. Defending Python Applications Against Weak PRNG | ✓ | √ | √ | | | |
| LAB 254. Defending Python Applications Against Parameter Tampering | ✓ | √ | √ | | | |
| LAB 260. Defending C# Applications Against Sensitive Information in Error Messages | ✓ | √ | | | | |
| LAB 261. Defending Python Applications Against Sensitive Information in Error Messages | √ | √ | | | | |

| SKILL LABS (continued) | | | | | | |
|---|----------|----------|----------|--|--|--|
| LAB 262. Defending Node.js Applications Against Sensitive Information in Error Messages | ✓ | √ | | | | |
| LAB 263. Defending Java Applications Against Sensitive Information in Log Files | ✓ | √ | | | | |
| LAB 264. Defending Python Applications Against Sensitive Information in Log Files | ✓ | √ | | | | |
| LAB 265. Defending Node.js Applications Against Sensitive Information in Log Files | ✓ | √ | | | | |
| LAB 266. Defending C# Applications Against Sensitive Information in Log Files | ✓ | √ | | | | |
| LAB 267. Defending Java Applications Against Deserialization of Untrusted Data | √ | √ | | | | |
| LAB 268. Defending Python Applications Against Deserialization of Untrusted Data | √ | √ | | | | |
| LAB 269. Defending Node.js Applications Against Deserialization of Untrusted Data | √ | √ | | | | |
| LAB 270. Defending C# Applications Against Deserialization of Untrusted Data | ✓ | √ | | | | |
| LAB 271. Defending Java Applications Against SSRF | ✓ | √ | | | | |
| LAB 272. Defending Python Applications Against SSRF | 1 | √ | | | | |
| LAB 273. Defending Node.js Applications Against SSRF | 1 | √ | | | | |
| LAB 274. Defending C# Applications Against SSRF | ✓ | √ | | | | |
| LAB 275. Defending Java Applications Against Command Injection | 1 | √ | 1 | | | |
| LAB 276. Defending Python Applications Against Command Injection | √ | √ | 1 | | | |
| LAB 277. Defending Node.js Applications Against Command Injection | 1 | √ | 1 | | | |
| LAB 278. Defending C# Applications Against Command Injection | ✓ | √ | 1 | | | |
| LAB 279. Defending Java Applications Against Dangerous File Upload | 1 | √ | 1 | | | |
| LAB 280. Defending Python Applications Against Dangerous File Upload | √ | √ | 1 | | | |
| LAB 281. Defending Node.js Against Dangerous File Upload | ✓ | √ | 1 | | | |
| LAB 282. Defending C# Applications Against Dangerous File Upload | √ | √ | 1 | | | |
| LAB 283. Defending Java Applications Against RegEx DoS | √ | √ | 1 | | | |
| LAB 284. Defending Python Applications Against RegEx DoS | ✓ | √ | 1 | | | |
| LAB 285. Defending Node.js Applications Against RegEx DoS | √ | √ | 1 | | | |
| LAB 286. Defending C# Applications Against RegEx DoS | √ | √ | 1 | | | |
| LAB 287. Defending Java Applications Against Null Pointer Dereference | √ | √ | 1 | | | |
| LAB 288. Defending C# Applications Against Null Pointer Dereference | √ | √ | √ | | | |
| LAB 289. Defending Java Applications Against Path Traversal | √ | √ | 1 | | | |
| LAB 290. Defending Python Applications Against Path Traversal | ✓ | √ | 1 | | | |
| LAB 291. Defending Node.js Applications Against Path Traversal | √ | √ | 1 | | | |
| LAB 292. Defending C# Applications Against Path Traversal | √ | √ | √ | | | |
| LAB 293. Defending Java Applications Against Integer Overflow | √ | √ | 1 | | | |

| SKILL LABS (continued) | | | | | |
|--|----------|----------|----------|--|---|
| LAB 294. Defending C# Applications Against Integer Overflow | √ | √ | √ | | |
| LAB 301. Defending Java Applications Against Open Redirect | √ | √ | | | ✓ |
| LAB 302. Defending Python Applications Against Open Redirect | √ | √ | | | ✓ |
| LAB 303. Defending C# Applications Against Open Redirect | √ | √ | | | ✓ |
| LAB 304. Defending Node.js Applications Against Open Redirect | √ | √ | | | ✓ |
| LAB 305. Defending Java Applications Against Weak Password Reset | √ | √ | | | ✓ |
| LAB 306. Defending Python Applications Against Weak Password Reset | √ | √ | | | ✓ |
| LAB 307. Defending C# Applications Against Weak Password Reset | 1 | √ | | | ✓ |
| LAB 308. Defending Node.js Applications Against Weak Password Reset | 1 | √ | | | ✓ |
| LAB 309. Defending TypeScript Applications Against Unrestricted Upload of File with Dangerous Type | ✓ | √ | | | ✓ |
| LAB 314. Defending TypeScript Applications Against SSRF | ✓ | √ | | | ✓ |
| LAB 316. Defending TypeScript Applications Against Hard-coded Credentials | ✓ | √ | | | ✓ |
| LAB 320. Defending TypeScript Applications Against Code Injection | ✓ | √ | | | ✓ |
| LAB 325. Defending TypeScript Applications Against CSRF | ✓ | √ | | | ✓ |
| LAB 326. Defending TypeScript Applications Against Path Traversal | ✓ | √ | | | ✓ |
| LAB 327. Defending C Applications Against Path Traversal | √ | √ | | | ✓ |
| LAB 328. Defending C++ Applications Against Path Traversal | √ | √ | | | ✓ |
| LAB 610. ATT&CK: File and Directory Permissions Modification | √ | √ | ✓ | | ✓ |
| LAB 611. ATT&CK: File and Directory Discovery | √ | √ | ✓ | | ✓ |
| LAB 612. ATT&CK: Testing for Network Services Identification | | | ✓ | | ✓ |
| LAB 613. ATT&CK: Testing for Vulnerability Identification Using Vulnerability Databases | | | ✓ | | ✓ |
| LAB 615. ATT&CK: Updating Vulnerable Java Web Application Server Software | ✓ | √ | ✓ | | ✓ |
| LAB 616. ATT&CK: Host Vulnerability Scanning | | | ✓ | | ✓ |
| LAB 617. ATT&CK: Testing for Plaintext Secrets in Files | | | ✓ | | ✓ |
| LAB 618. ATT&CK: Log Analysis | | | ✓ | | ✓ |
| LAB 619. ATT&CK: Exfiltration Over C2 Channel | | | √ | | ✓ |
| LAB 620. ATT&CK: Exploitation of Remote Services (Advanced) | | | √ | | ✓ |
| LAB 621. ATT&CK: Password Cracking | √ | √ | | | ✓ |
| LAB 622. ATT&CK: Exploiting Windows File Sharing Server with External Remote Services | | √ | | | ✓ |
| LAB 623. ATT&CK: Exploiting Vulnerable Java Web Application Server Software | √ | √ | √ | | ✓ |
| LAB 624. ATT&CK: Exploiting Java Web Application Server Misconfiguration | ✓ | ✓ | ✓ | | ✓ |

| SKILL LABS (continued) | | | | | | |
|---|---|----------|---|--|--|----------|
| LAB 625. ATT&CK: Exploit Public-Facing Application (Advanced) | | | ✓ | | | ✓ |
| LAB 630. ATT&CK: Exploiting Java SQL Injection to Extract Password Hashes | ✓ | √ | | | | √ |
| LAB 631. ATT&CK: Network Service Discovery | 1 | √ | | | | √ |
| LAB 632. ATT&CK: Network Share Discovery | 1 | √ | | | | √ |
| LAB 634. ATT&CK: Create Account | 1 | √ | | | | √ |
| LAB 635. ATT&CK: Unsecured Credentials | 1 | √ | | | | √ |
| LAB 636. ATT&CK: Data from Local System | | | | | | √ |
| LAB 637. ATT&CK: Valid Accounts | | | | | | √ |

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^{*}Our NIST courses that map to 800-53 and 800-171 publications. To understand how courses map to specific requirements, please contact us.