Course Outline for CompTIA CySA+ (CS0-003) CertMaster Learn, Student Guide and CertMaster Labs

Course Outline	CertMaster Learn	Student Guide eBook	CertMaster Labs
Overview	Each of the bulleted activities below is a separate study task within the CertMaster Learn learning plan. Students are encouraged to complete a certain number of tasks in each login session based on their desired course completion date.	Review Activities are embedded within the eBook. Videos and Practice Questions are found in the CompTIA Learning Center, the platform through which the eBook is delivered.	Labs are available at the course level or integrated as study tasks within CertMaster Learn.
Lesson 1: Understanding Vulnerability Response, Handling, and Management			
Topic 1A: Understanding Cybersecurity Leadership Concepts *Exam objectives covered:* *2.5 Explain concepts related to vulnerability response, handling, and management.*	• Video: Applying the Appropriate Risk Strategies • Review Activity: Cybersecurity Leadership Concepts	• Video: Applying the Appropriate Risk Strategies • Review Activity: Cybersecurity Leadership Concepts	• Assisted Lab: Explore the Lab Environment
Topic 1B: Exploring Control Types and Methods *Exam objectives covered:* *2.5 Explain concepts related to vulnerability response, handling, and management.*	• Review Activity: Control Types and Methods	• Review Activity: Control Types and Methods	• Assisted Lab: Configuring Controls
Topic 1C: Explaining Patch Management Concepts	• Video: Configuring & Implementing Endpoint Security Controls	• Video: Configuring & Implementing Endpoint Security Controls	

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Exam objectives covered: *2.5 Explain concepts related to vulnerability response, handling, and management.*	• Review Activity: Patch Management Concepts	• Review Activity: Patch Management Concepts	
	• Lesson 1: Practice Questions	• Lesson 1: Practice Questions	
Lesson 2: Exploring Threat Intelligence and Threat Hunting Concepts			
Topic 2A: Exploring Threat Actor Concepts *Exam objectives covered:* *1.4 Compare and contrast threat-intelligence and threat-hunting concepts.*	• Video: Developing a Network Threat Model • Review Activity: Threat Actor Concepts	• Video: Developing a Network Threat Model • Review Activity: Threat Actor Concepts	
Topic 2B: Identifying Active Threats *Exam objectives covered:* *1.4 Compare and contrast threat-intelligence and threat-hunting concepts.*	• Review Activity: Active Threats	• Review Activity: Active Threats	• Assisted Lab: Reviewing IoC and Threat Intelligence Sources
Topic 2C: Exploring Threat-Hunting Concepts *Exam objectives covered:* *1.4 Compare and contrast threat-intelligence and threat-hunting concepts.*	• Video: Analyzing Indicators of Compromise • PBQ: Performing Threat Intelligence • Review Activity: Threat-Hunting Concepts	• Video: Analyzing Indicators of Compromise • Review Activity: Threat-Hunting Concepts	• Assisted Lab: Performing Threat Hunting

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	• Lesson 2: Practice Questions	• Lesson 2: Practice Questions	
Lesson 3: Explaining Important System and Network Architecture Concepts			
Topic 3A: Reviewing System and Network Architecture Concepts *Exam objectives covered:* *1.1 Explain the importance of system and network architecture concepts in security operations.*	• PBQ: Analyzing Network Infrastructures • Review Activity: System and Network Architecture Concepts	• Review Activity: System and Network Architecture Concepts	• APPLIED LAB: Performing System Hardening
Topic 3B: Exploring Identity and Access Management (IAM) *Exam objectives covered:* *1.1 Explain the importance of system and network architecture concepts in security operations.*	• Video: Applying System and Network Architecture Concepts in Security Operations • Review Activity: Identity and Access Management (IAM)	• Video: Applying System and Network Architecture Concepts in Security Operations • Review Activity: Identity and Access Management (IAM)	• Assisted Lab: Configuring Centralized Logging
Topic 3C: Maintaining Operational Visibility *Exam objectives covered:* *1.1 Explain the importance of system and network architecture concepts in security operations.*	• Review Activity: Operational Visibility	• Review Activity: Operational Visibility	• Assisted Lab: Assess Time Synch Errors
	• Lesson 3: Practice Questions	• Lesson 3: Practice Questions	
Lesson 4: Understanding Process Improvement in Security Operations			

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Topic 4A: Exploring Leadership in Security Operations *Exam objectives covered:* *1.5 Explain the importance of efficiency and process improvement in security operations.*	• Video: Implementing Process Improvement in Security Operations • Review Activity: Leadership and Security Operations	• Video: Implementing Process Improvement in Security Operations • Review Activity: Leadership and Security Operations	
Topic 4B: Understanding Technology for Security Operations *Exam objectives covered:* *1.5 Explain the importance of efficiency and process improvement in security operations.*	• PBQ: Responding to a Security Incident • Review Activity: Technology for Security Operations	• Review Activity: Technology for Security Operations	• Assisted Lab: Configuring Automation
	• Lesson 4: Practice Questions	• Lesson 4: Practice Questions	
Lesson 5: Implementing Vulnerability Scanning Methods			
Topic 5A: Explaining Compliance Requirements *Exam objectives covered:* *2.1 Given a scenario, implement vulnerability scanning methods and concepts.*	• Review Activity: Compliance Requirements	• Review Activity: Compliance Requirements	
Topic 5B: Understanding Vulnerability Scanning Methods	• Video: Implementing Vulnerability	• Video: Implementing Vulnerability Scanning Methods and Concepts	• Assisted Lab: Performing Asset Discovery

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Exam objectives covered: *3.3 Given a scenario, deploy cloud networking solutions*	Scanning Methods and Concepts • PBQ: Implementing Vulnerability Scanning Methods • PBQ: Analyzing Vulnerability Scans • Review Activity: Vulnerability Scanning Methods Infrastructure Components	• Review Activity: Vulnerability Scanning Methods	• Assisted Lab: Performing Passive Scanning
Topic 5C: Exploring Special Considerations in Vulnerability Scanning *Exam objectives covered:* *2.1 Given a scenario, implement vulnerability scanning methods and concepts.*	• Review Activity: Special Considerations in Vulnerability Scanning	• Review Activity: Special Considerations in Vulnerability Scanning	• Assisted Lab: Performing Vulnerability Scanning
	• Lesson 5: Practice Questions	• Lesson 5: Practice Questions	
Lesson 6: Performing Vulnerability Analysis			
Topic 6A: Understanding Vulnerability Scoring Concepts *Exam objectives covered:* *2.3 Given a scenario, analyze data to prioritize vulnerabilities.*	• Video: Analyzing Data to Prioritize Vulnerabilities • PBQ: Analyzing Data to Prioritize Vulnerabilities • Review Activity: Vulnerability Scoring Concepts	• Video: Analyzing Data to Prioritize Vulnerabilities • Review Activity: Vulnerability Scoring Concepts	
Topic 6B: Exploring Vulnerability Context Considerations	• Review Activity: Vulnerability Context Considerations	• Review Activity: Vulnerability Context Considerations	• Assisted Lab: Establishing Context Awareness

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Exam objectives covered: *2.3 Given a scenario, analyze data to prioritize vulnerabilities.*			
	• Lesson 6: Practice Questions	• Lesson 6: Practice Questions	• Assisted Lab: • APPLIED LAB:
Lesson 7: Communicating Vulnerability Information			
Topic 7A: Explaining Effective Communication Concepts *Exam objectives covered:* *4.1 Explain the importance of vulnerability management reporting and communication.*	• Review Activity: Effective Communication Concepts	• Review Activity: Effective Communication Concepts	• Assisted Lab: Analyzing Vulnerability Scans
Topic 7B: Understanding Vulnerability Reporting Outcomes and Action Plans *Exam objectives covered:* *2.5 Explain concepts related to vulnerability response, handling, and management.* *4.1 Explain the importance of vulnerability management reporting and communication.*	• Video: The Importance of Vulnerability Management Reporting and Communication • PBQ: Performing Vulnerability Assessment • Review Activity: Vulnerability Reporting Outcomes and Action Plans	• Video: The Importance of Vulnerability Management Reporting and Communication • Review Activity: Vulnerability Reporting Outcomes and Action Plans	• Assisted Lab: Detecting Legacy Systems

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	• Lesson 7: Practice Questions	• Lesson 7: Practice Questions	
Lesson 8: Explaining Incident Response Activities			
Topic 8A: Exploring Incident Response Planning *Exam objectives covered:* *3.2 Given a scenario, perform incident response activities.* *3.3 Explain the preparation and post-incident activity phases of the incident management life cycle.* *4.2 Explain the importance of incident response reporting and communication.*	• Video: Preparing for Post-Incident Activity Phases • Review Activity: Incident Response Planning	• Video: Preparing for Post-Incident Activity Phases • Review Activity: Incident Response Planning	• ADAPTIVE LAB: Performing Playbook Incident Response • APPLIED LAB: Performing IoC Detection and Analysis
Topic 8B: Performing Incident Response Activities *Exam objectives covered:* *3.2 Given a scenario, perform incident response activities.*	• Review Activity: Incident Response Activities	• Review Activity: Incident Response Activities	• APPLIED LAB: Performing Post-Incident Forensic Analysis • APPLIED LAB: Collecting Forensic Evidence
	• Lesson 8: Practice Questions	• Lesson 8: Practice Questions	
Lesson 9: Demonstrating Incident Response Communication			

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Topic 9A: Understanding Incident Response Communication *Exam objectives covered:* *4.2 Explain the importance of incident response reporting and communication.*	• PBQ: Performing Incident Response Reporting • Review Activity: Incident Response Communication	• Review Activity: Incident Response Communication	
Topic 9B: Analyzing Incident Response Activities *Exam objectives covered:* *3.2 Given a scenario, perform incident response activities.* *4.2 Explain the importance of incident response reporting and communication.*	• Video: Executing Incident Response Reporting and Communication • Review Activity: Incident Response Activities	• Video: Executing Incident Response Reporting and Communication • Review Activity: Incident Response Activities	• Assisted Lab: Performing Root Cause Analysis
	• Lesson 9: Practice Questions	• Lesson 9: Practice Questions	
Lesson 10: Applying Tools to Identify Malicious Activity			
Topic 10A: Identifying Malicious Activity *Exam objectives covered:* *1.3 Given a scenario, use appropriate tools or techniques to determine malicious activity.*	• Review Activity: Malicious Activity • PBQ: Utilizing Digital Forensics and Indicator Analysis Techniques • PBQ: Analyzing Malicious Activity	• Review Activity: Malicious Activity	• Assisted Lab: Using File Analysis Techniques • Assisted Lab: Analyzing Potentially Malicious Files • APPLIED LAB: Using Network Sniffers
Topic 10B: Explaining Attack Methodology Frameworks	• Video: Performing Threat Management Activities	• Video: Performing Threat Management Activities	

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Exam objectives covered: *3.1 Explain concepts related to attack methodology frameworks.*	• Review Activity: Attack Methodology Frameworks	• Review Activity: Attack Methodology Frameworks	
Topic 10C: Explaining Techniques for Identifying Malicious Activity *Exam objectives covered:* *1.3 Given a scenario, use appropriate tools or techniques to determine malicious activity.*	• Review Activity: Techniques for Identifying Malicious Activity • PBQ: Identifying Malicious Activity	• Review Activity: Techniques for Identifying Malicious Activity	• APPLIED LAB: Researching DNS and IP Reputation
	• Lesson 10: Practice Questions	• Lesson 10: Practice Questions	
Lesson 11: Analyzing Potentially Malicious Activity			
Topic 11A: Exploring Network Attack Indicators *Exam objectives covered:* *1.2 Given a scenario, analyze indicators of potentially malicious activity.*	• Video: Analyzing Beaconing Traffic • Video: Irregular Peer-to-Peer Communication Intrusion IOCs • Review Activity: Network Attack Indicators	• Video: Analyzing Beaconing Traffic • Video: Irregular Peer-to-Peer Communication Intrusion IOCs • Review Activity: Network Attack Indicators	
Topic 11B: Exploring Host Attack Indicators *Exam objectives covered:* *1.2 Given a scenario, analyze indicators of potentially malicious activity.*	• Review Activity: Host Attack Indicators	• Review Activity: Host Attack Indicators	

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Topic 11C: Exploring Vulnerability Assessment Tools *Exam objectives covered:* *1.2 Given a scenario, analyze indicators of potentially malicious activity.* *2.2 Given a scenario, analyze output from vulnerability assessment tools.*	• Video: Analyzing Output from Topology and Host Enumeration Tools • Video: Analyzing Output from Fingerprinting Scans • PBQ: Exploring Vulnerability Assessment Tools • Review Activity: Vulnerability Assessment Tool's	• Video: Analyzing Output from Topology and Host Enumeration Tools • Video: Analyzing Output from Fingerprinting Scans • Review Activity: Vulnerability Assessment Tools	• Assisted Lab: Using Nontraditional Vulnerability Scanning Tools
	• Lesson 11: Practice Questions	• Lesson 11: Practice Questions	
Lesson 12: Understanding Application Vulnerability Assessment			
Topic 12A: Analyzing Web Vulnerabilities *Exam objectives covered:* *2.2 Given a scenario, analyze output from vulnerability assessment tools.*	• Video: Analyzing Burp Suite Output • Review Activity: Analyzing Web Vulnerabilities	• Video: Analyzing Burp Suite Output • Review Activity: Analyzing Web Vulnerabilities	• APPLIED LAB: Performing Web Vulnerability Scanning
Topic 12B: Analyzing Cloud Vulnerabilities *Exam objectives covered:* *2.2 Given a scenario, analyze output from vulnerability assessment tools.*	• Video: Analyzing ScoutSuite Output • Review Activity: Analyzing Cloud Vulnerabilities • PBQ: Analyzing Cloud Vulnerability Assessment Output	• Video: Analyzing ScoutSuite Output • Review Activity: Analyzing Cloud Vulnerabilities	• Assisted Lab: Analyzing Cloud Vulnerabilities
	• Lesson 12: Practice Questions	• Lesson 12: Practice Questions	
Lesson 13: Exploring Scripting Tools and Analysis Concepts			

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Topic 13A: Understanding Scripting Languages *Exam objectives covered:* *1.2 Given a scenario, analyze indicators of potentially malicious activity.* *1.3 Given a scenario, use appropriate tools or techniques to determine malicious activity.*	• Review Activity: Programming Languages • PBQ: Identifying Programming Languages	• Review Activity: Programming Languages	
Topic 13B: Identifying Malicious Activity Through Analysis *Exam objectives covered:* *1.2 Given a scenario, analyze indicators of potentially malicious activity.* *1.3 Given a scenario, use appropriate tools or techniques to determine malicious activity.*	• Review Activity: Malicious Activity Through Analysis • PBQ: Identifying Malicious Activity through Analysis	• Review Activity: Malicious Activity Through Analysis	
Lesson 14: Understanding Application Security and Attack Mitigation Best Practices			
Topic 14A: Exploring Secure Software Development Practices *Exam objectives covered:* *2.5 Explain concepts related to vulnerability*	• Review Activity: Secure Software Development Practices	• Review Activity: Secure Software Development Practices	• Assisted Lab: Exploiting Weak Cryptography

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response, handling, and management. *3.1 Explain concepts related to attack methodology frameworks.*			
Topic 14B: Recommending Controls to Mitigate Successful Application Attacks *Exam objectives covered:* *2.4 Given a scenario, recommend controls to mitigate attacks and software vulnerabilities.* *2.5 Explain concepts related to vulnerability response, handling, and management.*	• Video: Analyzing Vulnerabilities & Recommending Risk Mitigations • Review Activity: Controls to Mitigate Successful Application Attacks • PBQ: Applying Security Solutions for Software Assurance	• Video: Analyzing Vulnerabilities & Recommending Risk Mitigations • Review Activity: Controls to Mitigate Successful Application Attacks	• Assisted Lab: Performing Directory Traversal and Command Injection • Assisted Lab: Performing XSS • Assisted Lab: Performing LFI/RFI • Assisted Lab: Performing SQLi • Assisted Lab: Performing CSRF
Topic 14C: Implementing Controls to Prevent Attacks *Exam objectives covered:* *2.4 Given a scenario, recommend controls to mitigate attacks and software vulnerabilities.*	• Review Activity: Controls to Mitigate Successful Attacks	• Review Activity: Controls to Mitigate Successful Attacks	• Assisted Lab: Performing Privilege Escalation • APPLIED LAB: Exploiting Security Misconfiguration
	• Final Assessment	• Final Assessment	
	• Strengths and Weaknesses Dashboard • Flashcards • Game Center	• Strengths and Weaknesses Dashboard	

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Student Resources	• Mapping Course Content to CompTIA CySA+ CS0-003 (pdf)	• Mapping Course Content to CompTIA CySA+ CS0-003 (pdf)	
Instructor Resources	• Presentation Planner for CySA+ CS0-003 (xlsx) • Transition Guide for Official CompTIA CySA+ Exam CS0-002 to Official CompTIA CySA+ CS0-003 (pdf) • Onboarding Guide for Official CompTIA CySA+ CS0-003 Content (pdf) • Mapping Course Content to CompTIA CySA+ CS0-003 (pdf) • Instructor PowerPoint Presentations for CySA+ CS0-003 (zip)	• Presentation Planner for CySA+ CS0-003 (xlsx) • Transition Guide for Official CompTIA CySA+ Exam CS0-002 to Official CompTIA CySA+ CS0-003 (pdf) • Onboarding Guide for Official CompTIA CySA+ CS0-003 Content (pdf) • Mapping Course Content to CompTIA CySA+ CS0-003 (pdf) • Instructor PowerPoint Presentations for CySA+ CS0-003 (zip)	