

Syllabus Part II
EDISON STATE COMMUNITY COLLEGE
CYB 236S Computer Security Essentials
3 CREDIT HOURS

Section/Term: CYB-236S-801FS

Class Meeting Time: ONLINE

Location: ONLINE

Required items: TESTOUT SECURITY PRO
COMPTIA/TESTOUT
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Faculty Contact: If you have questions or concerns, please contact me via email with the course name and number in the subject line (CYB 236 801FS) through your Edison State email. You are encouraged to set up an appointment to meet virtually or stop by my office.

All course assignments will be submitted on the Edison State Blackboard Course website (www.edisonohio.blackboard.com) You are required to use your Edison State email for all course work and communications in this course.

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Getting Started

Read this entire document and familiarize yourself with the Blackboard course site for this class. All of the assignments, and any information you will need for completing this course will be available on the Edison blackboard course website and are as outlined in this syllabus.

Course Objectives

This course is designed to prepare students for the CompTIA Security+ SY0-701 Certification Exam while developing hands-on cybersecurity skills needed in real-world IT and security environments.

Students will gain knowledge in:

- Compliance and operational security
- Threats and vulnerabilities
- Application, data, and host security
- Access control and identity management
- Cryptography and PKI
- Incident response and disaster recovery
- Security governance, risk management, and data protection

The course also incorporates emerging and applied topics, including:

- Psychological approaches to social engineering attacks
- Web application attacks and penetration testing
- Data loss prevention and cloud computing security
- Secure application development practices
- Business continuity planning and resiliency strategies

By the end of this course, students will be able to:

- Explain fundamental security concepts and terminology
- Identify and mitigate malware, phishing, and social engineering attacks
- Apply cryptographic techniques (basic and advanced, including PKI)
- Analyze and defend against networking and server-based attacks
- Configure and secure enterprise network devices, services, and protocols
- Administer secure user accounts, access control models, and authentication methods (including smart cards and biometrics)
- Secure wireless networks and endpoint devices
- Perform vulnerability assessments and apply remediation strategies
- Implement incident response, forensic evidence handling, and disaster recovery techniques
- Evaluate governance, risk, and compliance (GRC) frameworks for organizational security

Teaching Philosophy

This course is built on the principle that the best way to learn cybersecurity is by doing. This course is built on the principle that the best way to learn cybersecurity is by doing. The CompTIA Security+

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labs used in this course provide a fully virtualized, hands-on environment where you will configure, secure, and troubleshoot systems that mirror real-world enterprise networks.

Many of the labs are designed around practical scenarios—from hardening a server to implementing encryption, securing wireless networks, and responding to attacks. By engaging with these labs, you will not only build the knowledge needed for the Security+ certification but also develop the technical confidence employers expect in entry-level cybersecurity roles.

While most of your hands-on practice will be online, physical lab equipment is available on campus for those who would like additional experience. Please email me if you would like access, and we can create a plan to provide the resources and support your need.

The quizzes, exams, and assessments in this course are not just tests of memorization—they are structured to measure your progression of knowledge and ability to apply what you’ve learned. The labs, are designed as realistic problem-solving situations, helping you bridge the gap between classroom learning and professional practice.

Finally, it’s important to recognize that making mistakes is part of the learning process. Troubleshooting and working through errors are exactly what cybersecurity professionals do every day. Don’t be discouraged if you get stuck—instead, view it as an opportunity to strengthen your problem-solving skills. The goal of this course is not perfection, but progress and growth toward becoming a skilled and confident cybersecurity practitioner.

Daily Responsibilities

You are expected to use proper English, sign your emails with your full name, and include the course name and number in any correspondence at the college level. Remember, most of you are in college to prepare for technical careers, and using proper grammar and spelling demonstrates respect and professionalism.

Follow the instructions, course outline, and rubrics to stay on track. Manage your time effectively to avoid falling behind. Trying to catch up later can be overwhelming. All assignments must be completed by Sunday at 11:59 PM in the week they were assigned. However, you can work ahead on many assignments, such as chapter quizzes, exams, and labs, to plan accordingly. Please note that assignments completed early may not be graded until after the due date.

This course will require a significant amount of time. The time needed per week will vary, so you need to plan accordingly. As per the time requirements specified in the Edison Academic Catalog, students should set aside a minimum of 18 hours per week for this course. Students are responsible for making up any missed work. Students must complete any missed assignments. I will not repeatedly approach students to complete work; it’s your responsibility.

Grading and Evaluation Policy

Discussion Post Assignments

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You will be responsible for completing the Discussion Board posts included in each module of the course. The Discussion Board posts allow you to engage with, share your insights, reflect on course topics, and collaborate with your peers. Typically, the discussions will deepen in complexity as the semester progresses, encouraging more critical thinking and application of concepts. These discussion posts combined account for 5% of your overall grade for the course.

Video Lectures, Video Demonstrations, Readings and Section Quizzes

You will be responsible for watching Video Lectures, Video Demonstrations, Assigned Readings and Section Quizzes. These Items Account for 10% of your overall grade for the course.

Tests/Skills Demonstrations

You will be responsible for completing the Section Tests (20%) and Skills Demonstrations/Labs (25%) in each Section of the course. The combined scores from these assessments account for 45% of your overall grade for the course.

Final Exams

You will complete a comprehensive set of final exams in Weeks 15 and 16 of this course, assessing your overall knowledge of the materials. The final exam will consist of multiple choice, matching, short answer, lab simulations and possibly essay questions. The exam is open-resource but timed, with a question range of around 100. The 2 assessments accounts for 40% of your overall grade for the course.

Weighted Grading Scale

Assessed Items	%
Discussion Board Posts	5%
Videos, Readings, and Section Quizzes	10%
Tests and Skills Demonstrations	45%

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Final Exams	40%
Total	100%

Final grades

A letter grade is earned based on the final weighted percentage for all Assigned materials, Module Tests, Skills Demonstrations, Discussion posts and the Final Exams.

This course will conform to the following grading scale:

90 - 100%	A
80 - 89.99%	B
70 - 79.99%	C
60 - 69.99%	D
Below 60%	F

TESTING YOUR FAITH ACT POLICY

Edison State Community College is committed to providing an environment respectful of students' beliefs. Students are permitted to be absent for up to 3 days each semester based on their faith, religion, or spiritual belief system with no academic penalty. Students must complete the Testing Your Faith Act Accommodations Form, <https://www.edisonohio.edu/services-support/registration-records>, located in "Forms" and provide a copy to their individual faculty within 14 days from the start of the course. The entire policy can be found in the student handbook at <https://www.edisonohio.edu/services-support/student-resources>.

Weekly Assignment Schedule

****** YOU ARE REQUIRED TO HAVE THE COURSEWARE MATERIAL DURING THE FIRST WEEK OF THE COURSE. **** ANY STUDENT NOT COMPLETING THE ASSIGNMENT LABLED "2.2.9 - Quiz Questions " BY THE DUE DATE WILL BE AUTOMATICALLY DROPPED FROM THE COURSE FOR NON PARTICIPATION. ******

Week 1 Assignments

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- 1.1.5 - Quiz Questions
 - 1.2.3 - Activity: Security Control and Framework Types
 - 1.2.4 - Quiz Questions
 - 2.1.8 - Quiz Questions
 - 2.2.7 - Lab: Identify Social Engineering
 - 2.2.8 - Activity: Social Engineering Techniques
 - 2.2.9 - Quiz Questions (YOU MUST COMPLETE ALL PREVIOUS SECTIONS TO START/COMPLETE THIS ASSIGNMENT)
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Week 2 Assignments

- 2.3.6 – Lab: Configure Microsoft Defender
 - 2.3.7 - Activity: Analyze Indicators of Malware-Based Attacks
 - 2.3.8 - Quiz Questions
 - 3.1.7 - Activity: Identify Cryptographic Modes of Operation
 - 3.1.11 - Lab: Hide Files with OpenStego
 - 3.1.14 - Quiz Questions
 - 3.2.5 - Quiz Questions
 - 3.3.5 - Lab: Compare an MD5 Hash
 - 3.3.6 - Quiz Questions
 - 3.4.3 - Lab: Encrypt Files with EFS
 - 3.4.8 - Lab: Configure BitLocker with a TPM
 - 3.4.10 - Quiz Questions
 - 3.5.6 - Lab: Manage Certificates
 - 3.5.9 - Activity: Certificates and Certificate Authorities
 - 3.5.10 - Quiz Questions
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Week 3 Assignments

- Chapter 4.0 Identity and Access Management
- 4.1.6 - Quiz Questions
- 4.2.9 - Quiz Questions
- 4.3.5 - Activity: Implement an Access Control Model
- 4.3.6 - Quiz Questions
- 4.4.5 - Lab: Create OUs
- 4.4.6 - Lab: Delete OUs
- 4.4.10 - Lab: Create and Link a GPO
- 4.4.11 - Lab: Create User Accounts
- 4.4.12 - Lab: Manage User Accounts
- 4.4.13 - Lab: Create a Group
- 4.4.14 - Lab: Create Global Groups
- 4.4.15 - Quiz Questions
- 4.5.5 - Lab: Configure Account Password Policies

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- 4.5.7 - Lab: Restrict Local Accounts
 - 4.5.8 - Lab: Secure Default Accounts
 - 4.5.9 - Lab: Enforce User Account Control
 - 4.5.12 - Lab: Configure Smart Card Authentication
 - 4.5.14 - Quiz Questions
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Week 4 Assignments

- 4.6 Linux Identity and Access Management
- 4.6.4 - Lab: Create a User Account
- 4.6.5 - Lab: Rename a User Account
- 4.6.6 - Lab: Delete a User
- 4.6.7 - Lab: Change Your Password
- 4.6.8 - Lab: Change a User's Password
- 4.6.9 - Lab: Lock and Unlock User Accounts
- 4.6.14 - Quiz Questions
- 4.7.3 - Lab: Rename and Create Groups
- 4.7.4 - Lab: Add Users to a Group
- 4.7.5 - Lab: Remove a User from a Group
- 4.7.6 - Quiz Questions
- 4.8.1 - Remote Access
- 4.8.5 - Quiz Questions
- 4.9.5 - Quiz Questions

Week 5 Assignments

- Chapter 5.0 Network Architecture
- 5.1.3 - Quiz Questions
- 5.2.7 - Lab: Configure a Security Appliance
- 5.2.8 - Lab: Configure Network Security Appliance Access
- 5.2.13 - Quiz Questions
- 5.3.3 - Lab: Configure a Screened Subnet
- 5.3.5 - Quiz Questions
- 5.4.5 - Lab: Configure a Perimeter Firewall
- 5.4.6 - Quiz Questions
- 5.5.4 - Lab: Configure a Remote Access VPN
- 5.5.5 - Lab: Configure a VPN Connection iPad
- 5.5.9 - Activity: Implement Secure Remote Access Protocols
- 5.5.10 - Quiz Questions

Week 6 Assignments

- 5.6.3 - Quiz Questions
- 5.7.6 - Lab: Secure a Switch
- 5.7.7 - Quiz Questions

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- 5.8.4 - Quiz Questions
- 5.9.7 - Lab: Harden a Switch
- 5.9.8 - Lab: Secure Access to a Switch
- 5.9.9 - Lab: Secure Access to a Switch 2
- 5.9.10 - Quiz Questions
- 5.10.5 - Lab: Restrict Telnet and SSH Access
- 5.10.6 - Lab: Permit Traffic
- 5.10.7 - Lab: Block Source Hosts
- 5.10.8 - Quiz Questions

Week 7 Assignments

- Chapter 6.0 Resiliency and Site Security
- 6.1.3 - Lab: Implement Physical Security
- 6.1.4 - Quiz Questions
- 6.2.7 - Quiz Questions
- 6.3.4 - Lab: Implement Intrusion Prevention
- 6.3.5 - Quiz Questions
- 6.4.4 - Quiz Questions
- 6.5.4 - Lab: Poison ARP and Analyze with Wireshark
- 6.5.6 - Lab: Poison DNS
- 6.5.8 - Lab: Analyze a SYN Flood Attack
- 6.5.12 - Quiz Questions
- 6.6.4 - Lab: Crack Password with Rainbow Tables
- 6.6.7 - Lab: Crack a Password with John the Ripper
- 6.6.8 - Quiz Questions

Week 8 Assignments

- Chapter 7.0 Vulnerability Management
- 7.1.7 - Activity: Identify Types of Vulnerabilities
- 7.1.8 - Quiz Questions
- 7.2.6 - Lab: Scan for Cleartext Vulnerabilities
- 7.2.7 - Lab: Scan for FTP Vulnerabilities
- 7.2.8 - Lab: Scan for TLS Vulnerabilities
- 7.2.9 - Lab: Scan for Windows Vulnerabilities
- 7.2.10 - Lab: Scan for Linux Vulnerabilities
- 7.2.11 - Lab: Scan for Domain Controller Vulnerabilities
- 7.2.12 - Quiz Questions
- 7.3.8 - Quiz Questions
- 7.4.5 - Quiz Questions

Week 9 Assignments

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- Chapter 8.0 Network and Endpoint Security
- 8.1.5 - Lab: Configure Automatic Updates
- 8.1.7 - Lab: Configure Microsoft Defender Firewall
- 8.1.8 - Quiz Questions
- 8.2.5 - Lab: Configure NTFS Permissions
- 8.2.6 - Lab: Disable Inheritance
- 8.2.7 - Quiz Questions
- 8.3.6 - Quiz Questions
- 8.4.5 - Lab: Configure a Wireless Network
- 8.4.6 - Quiz Questions
- 8.5.4 - Lab: Configure Rogue Host Protection
- 8.5.5 - Quiz Questions
- 8.6.6 - Lab: Harden a Wireless Network
- 8.6.7 - Lab: Configure WIPS
- 8.6.8 - Activity: Implement Secure Wireless Infrastructure
- 8.6.9 - Quiz Questions
- 8.7.4 - Lab: Allow SSL Connections
- 8.7.8 - Activity: Modify Enterprise Capabilities to Enhance Security
- 8.7.9 - Quiz Questions
- 8.8.6 - Lab: Clear the Browser Cache
- 8.8.11 - Lab: Perform an SQL Injection Attack
- 8.8.12 - Quiz Questions
- 8.9.8 - Lab: Implement Application Allowed Lists with AppLocker
- 8.9.10 - Lab: Implement Data Execution Preventions
- 8.9.12 - Quiz Questions

Week 10 Assignments

- Chapter 9.0 Incident Response
- 9.1.5 - Activity: Summarize Incident Response Procedures
- 9.1.6 - Quiz Questions
- 9.2.11 - Quiz Questions
- 9.3.10 - Quiz Questions
- 9.4.5 - Activity: Incorporate Redundancy Strategies
- 9.4.6 - Quiz Questions
- 9.5.6 - Lab: Back Up Files with File History
- 9.5.7 - Lab: Recover a File from File History
- 9.5.10 - Lab: Backup a Domain Controller
- 9.5.11 - Quiz Questions

Week 11 Assignments

- Chapter 10.0 Protocol, App, and Cloud Security
- 10.1.6 - Lab: Create Virtual Machines
- 10.1.10 - Quiz Questions
- 10.2.6 - Lab: Create Virtual Switches

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- 10.2.7 - Quiz Questions
- 10.3.4 - Quiz Questions
- 10.4.6 - Activity: Analyze Infrastructure Types and Functions
- 10.4.7 - Quiz Questions
- 10.5.7 - Activity: Implement Mobile Device Management
- 10.5.8 - Quiz Questions
- 10.6.6 - Quiz Questions
- 10.7.4 - Lab: Secure an iPad
- 10.7.6 - Lab: Create a Guest Network for BYOD
- 10.8.6 - Quiz Questions
- 10.9.5 - Lab: Configure Email Filters
- 10.9.7 - Lab: Secure Email on iPad
- 10.9.8 - Quiz Questions

Week 12 Assignments

- Chapter 11.0 Security Governance Concepts
- 11.1.4 - Activity: Apply Appropriate Policies and Regulations
- 11.1.5 - Quiz Questions
- 11.2.3 - Quiz Questions
- 11.3.3 - Quiz Questions

Week 13 Assignments

- Chapter 12.0 Risk Management Processes
- 12.1.7 - Quiz Questions
- 12.2.3 - Quiz Questions
- 12.3.4 - Lab: Configure Advanced Audit Policy
- 12.3.6 - Lab: Enable Device Logs
- 12.3.7 - Quiz Questions

Week 14 Assignments

- Chapter 13.0 Data Protection and Compliance
- 13.1.9 - Activity: Privacy and Data Sensitivity Concepts
- 13.1.10 - Quiz Questions
- 13.2.5 - Quiz Questions

Week 15 Assignments

- A.4 CompTIA Security+ SY0-701 Certification Practice Exam (Written Final)

Week 16 Assignments

- B.3 TestOut Security Pro Certification Practice Exam (Skills Based Assessment)
- Week 16 Discussion Board (Final Thoughts) (Due: 12/14/25, 11:59 PM)

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Please see the *assignments section* on the Edison blackboard course page for links to submit these assignments for credit towards this course. (<https://edisonohio.blackboard.com/>)