

LEVEL I CERTIFICATE & AAS, COMPUTER INFORMATION SYSTEMS AND SECURITY

Additional information: Reference the SHSU Polytechnic College (<https://sam.edu/>) page for additional information.

Program Description

The Computer Information Systems and Security AAS & Computer Support Specialist Level I Certificate is a workforce program designed to equip students with the knowledge and technical skills to work as computer support specialists with a focus on information security. The program coursework focused on computer support is designed to equip students with the skills and knowledge necessary to provide technical assistance to computer users in various settings. User support-focused courses in this program cover the fundamental concepts of computer hardware, software, networks, and customer service. Students will learn how to troubleshoot common computer problems, provide technical support, and ensure effective communication with end-users. The need for information security in the computer support field is growing rapidly. This program addresses the growing need of IT service providers to enhance security and mitigate cyber threats for end-users. The information security-focused coursework in this program will provide students with the skills necessary for protecting computer systems, networks, and data from cyber threats to ensure the integrity, confidentiality, and availability of information. Through hands-on labs, applied coursework, and industry-relevant projects, the program covers a wide range of topics in computer system support and cybersecurity, preparing students for the growing demand for information security professionals in various industries, including government, healthcare, finance, and technology. Graduates with the Level I Certificate credential will be able to enter the IT industry as a computer user support specialist. Graduates with the Associate of Applied Science credential will be able to evaluate and provide guidance for system and network security, design and install secure network systems, and monitor and maintain network traffic and security.

Statewide Industry Insights

- Current Workforce: 31,931
 - Average Salary: \$91,700
 - Open Positions: 2,895
- Data provided by Lightcast, 2024

Code	Title	Hours
Level I Certificate, Computer Support Specialist		
CPMT 1305: IT Essentials I, PC Hardware and Software		3
ITNW 1309: Fundamentals of Cloud Computing		3
ITNW 1325: Fundamentals of Networking Technologies		3
ITSC 1305: Introduction to PC Operating Systems		3
ITSE 1359: Introduction to Scripting Languages		3
ITSY 1300: Fundamentals of Information Security		3
ITSY 1342: Information Technology Security		3
ITSY 2300: Operating System Security		3
ITSY 2301: Firewalls and Network Security		3
Total Hours		27

Note: The Level I certificate program stacks into the AAS curriculum.

Code	Title	Hours
AAS, Computer Information Systems and Security		
COMS 2382	Communication for Business & the Professions ¹	3
ENGL 1301	Composition I ²	3
MATH 1332	College Mathematics ³	3
MCOM 1330	Media, Culture and Society ⁴	3
PHIL 2303	Critical Thinking ⁵	3
CPMT 1305: IT Essentials I, PC Hardware and Software		3
ITNW 1309: Fundamentals of Cloud Computing		3
ITNW 1325: Fundamentals of Networking Technologies		3
ITSC 1305: Introduction to PC Operating Systems		3
ITSC 1316: Linux Installation & Configuration		3
ITSC 1342: Shell Programming		3
ITSE 1359: Introduction to Scripting Languages		3

ITSY 1300: Fundamentals of Information Security	3
ITSY 1342: Information Technology Security	3
ITSY 2300: Operating System Security	3
ITSY 2301: Firewalls and Network Security	3
ITSY 2330: Intrusion Detection	3
ITSY 2341: Security Management Practices	3
ITSY 2342: Incident Response and Handling	3
ITSY 2345: Network Defense and Countermeasures	3
Total Hours	60

- ¹ COMS 2382 satisfies the Core Curriculum requirement for Component Area IX (Component Area Option).
- ² ENGL 1301 satisfies the Core Curriculum requirement for Component Area I (Communications).
- ³ MATH 1332 satisfies the Core Curriculum requirement for Component Area II (Mathematics).
- ⁴ MCOM 1330 satisfies the Core Curriculum requirement for Component Area IV (Language, Philosophy, and Culture).
- ⁵ PHIL 2303 satisfies the Core Curriculum requirement for Component Area VIII (Social and Behavioral Sciences).

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Level I Certificate, Computer Support Specialist

First Year

Fall	Hours	Spring	Hours
CPMT 1305: IT Essentials I, PC Hardware and Software		3 ITSE 1359: Introduction to Scripting Languages	3
ITNW 1309: Fundamentals of Cloud Computing		3 ITSY 1342: Information Technology Security	3
ITNW 1325: Fundamentals of Networking Technologies		3 ITSY 2300: Operating System Security	3
ITSC 1305: Introduction to PC Operating Systems		3 ITSY 2301: Firewalls and Network Security	3
ITSY 1300: Fundamentals of Information Security		3	
	15		12

Total Hours: 27

Note: The Level I certificate program stacks into the AAS curriculum.

AAS, Computer Information Systems and Security

First Year

Fall	Hours	Spring	Hours
CPMT 1305: IT Essentials I, PC Hardware and Software		3 ITSE 1359: Introduction to Scripting Languages	3
ITNW 1309: Fundamentals of Cloud Computing		3 ITSY 1342: Information Technology Security	3
ITNW 1325: Fundamentals of Networking Technologies		3 ITSY 2300: Operating System Security	3
ITSC 1305: Introduction to PC Operating Systems		3 ITSY 2301: Firewalls and Network Security	3
ITSY 1300: Fundamentals of Information Security		3 MATH 1332 ¹	3
	15		15

Second Year

Fall	Hours	Spring	Hours
COMS 2382 ²		3 ITSY 2330: Intrusion Detection	3
ENGL 1301 ³		3 ITSY 2342: Incident Response and Handling	3
ITSC 1316: Linux Installation & Configuration		3 ITSY 2345: Network Defense and Countermeasures (Capstone)	3
ITSC 1342: Shell Programming		3 MCOM 1330 ⁴	3
ITSY 2341: Security Management Practices		3 PHIL 2303 ⁵	3
	15		15

Total Hours: 60

- ¹ MATH 1332 satisfies the Core Curriculum requirement for Component Area II (Mathematics).
- ² COMS 2382 satisfies the Core Curriculum requirement for Component Area IX (Component Area Option).
- ³ ENGL 1301 satisfies the Core Curriculum requirement for Component Area I (Communications).
- ⁴ MCOM 1330 satisfies the Core Curriculum requirement for Component Area IV (Language, Philosophy, and Culture).

⁵ PHIL 2303 satisfies the Core Curriculum requirement for Component Area VIII (Social and Behavioral Sciences).

The Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The Level I Certificate and AAS Program in Computer Information Systems and Security is designed to provide graduates with the following marketable skills:

- Firewall configuration and management, intrusion detection systems, intrusion prevention systems.
- Operating systems administration and management, Windows server security, Linux system administration and hardening, cloud infrastructure administration and security.
- Network discovery, security auditing, and basic scripting.
- Implementation of secure protocols, log analysis, security information, and event management.
- Security audits, risk assessment, and risk management protocols.