

# GRADUATE CERTIFICATE IN CYBER SECURITY

The Cyber Security certificate provides students with a concentrated and in-depth exposure to critical infrastructure security concerns to enhance professional capability. Individuals holding a baccalaureate degree in Computer Science or a related field would be suitable candidates for this program.

This Graduate Certificate is eligible to receive Title IV funding – Direct Unsubsidized Loans and Graduate PLUS loans by request. To be considered for aid, students need to submit a Free Application for Federal Student Aid (FAFSA).

**Additional information:** Reference the Program Landing Page (<https://www.shsu.edu/programs/certificate/cyber-security/>) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

Applicants seeking admission to the graduate certificate program in Cyber Security must submit the following directly to the Office of Graduate Admissions: (<https://www.shsu.edu/dept/graduate-admissions/prospective-students.html>)

1. Graduate Application (<http://www.shsu.edu/admissions/apply-texas.html>)
2. Application fee (<http://www.shsu.edu/dept/graduate-studies/application-fee.html>)
3. Official transcript from the baccalaureate degree granting institution
4. Bachelor's degree in Computer Science or a closely related field with a minimum GPA of 3.0
5. Up-to-date Resume

## Stem Requirement

At the minimum, students are expected to present a background comparable to that provided in the following courses as described in the Undergraduate Catalog of Sam Houston State University:

### Prerequisite courses

Code	Title	Hours
<b>Prerequisite Courses</b>		
COSC 2327	Introduction to Computer Networks	3
COSC 3318	Data Base Management Systems	3
MATH 1420	Calculus I	4
STAT 3379	Statistical Methods in Practice	3

Students who **have not fulfilled** the prerequisites in formal coursework **are required** to take one or more of the graduate stem courses, in addition to the 30 semester credit hours required in the Graduate Certificate in Cyber Security.

### Graduate Stem Course Requirements

Code	Title	Hours
<b>Graduate Stem Course Requirements</b>		
COSC 5301	Quantitative Foundations of Computer Science	3
COSC 5302	Computer Science Core Topics	3

Code	Title	Hours
<b>Graduate Certificate in Cyber Security</b>		
<b>Specified Courses</b>		
COSC 5310	Cryptography & Steganography	3
COSC 5330	Malware	3
DFSC 5315	Network and Cyber Security	3
DFSC 6310	Cyber Warfare & Terrorism	3
<b>Elective</b>		
DFSC 5336 or DFSC 5318	Business Continuity Management Cyber Law	3

**Total Hours** 15

## Stem Requirement

At the minimum, students are expected to present a background comparable to that provided in the following courses as described in the Undergraduate Catalog of Sam Houston State University:

#### Prerequisite courses

Code	Title	Hours
<b>Prerequisite Courses</b>		
COSC 2327	Introduction to Computer Networks	3
COSC 3318	Data Base Management Systems	3
MATH 1420	Calculus I	4
STAT 3379	Statistical Methods in Practice	3

Students who **have not fulfilled** the prerequisites in formal coursework **are required** to take one or more of the graduate stem courses, in addition to the 30 semester credit hours required in the Graduate Certificate in Cyber Security.

#### Graduate Stem Course Requirements

Code	Title	Hours
<b>Prerequisite Courses</b>		
COSC 5301	Quantitative Foundations of Computer Science	3
COSC 5302	Computer Science Core Topics	3

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 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 Graduate Certificate in Cyber Security is designed to provide graduates with the following marketable skills:

- Analyze and assess risk and identify vulnerabilities in an organization's network.
- Create plans and implement strategies for preventing attacks to a network.
- Acquire the professional competency and cybersecurity expertise necessary for roles and responsibilities in business, industry, and governmental positions.
- Cyber security research.