MASTER OF SCIENCE IN INFORMATION ASSURANCE AND CYBERSECURITY

Graduate study in Information Assurance and Cybersecurity is accessible both to students who have completed undergraduate Computer Science or Management Information Science majors or minors and to those with baccalaureate degrees in technical fields with the equivalent of a Computer Science or Management Information Science minor in formal coursework or professional experience. Applicants who do not possess the appropriate academic, technical, or experiential backgrounds may be required to take stem work courses to ensure a minimum standard of technical competence. Stem work decisions are made on an individual basis by the department chair.

Additional information: Reference the Program Landing Page (https://www.shsu.edu/programs/graduate/information-assurance-and-cybersecurity/) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

Applicants seeking admission to the graduate program in Information Assurance and Cybersecurity 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. Up-to-date Resume
5. Two letters of recommendation that address the applicant's qualification for graduate study

This degree is accessible to students who have completed undergraduate Computer Science or Criminal Justice majors or minors and to those with baccalaureate degrees in technical fields with the equivalent of a Computer Science or Criminal Justice minor in formal coursework or professional experience. Applicants who do not possess the appropriate academic, technical, or experiential backgrounds may be required to take stem work courses. In addition, admission preference is given to applicants with a GPA of 3.0 or greater.

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
Required Courses		
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 MS in Information Assurance and Cybersecurity.

Graduate Stem Course Requirements

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

The degree requires a minimum of thirty hours of graduate credit. All MS students in Non-Thesis or Professional Options are obligated to fulfill and achieve a passing grade in written or oral comprehensive exams for core subjects where they obtained a grade of B or lower. Exams are conducted during their terminal semester. Should a student fail one or more examinations, a re-examination shall be permitted per department approval. A third examination may be permitted only with the approval of the appropriate academic dean and the department. Students must be enrolled at SHSU in the semester in which the comprehensive exams are administered.

An MS Project or Thesis committee will be established either before or during the student's penultimate semester. The committee should consist of a committee chair (supervisor) and a minimum of two additional committee members, all holding the appropriate graduate faculty status. With the approval of the department, academic dean, and Dean of The Graduate School, the committee may include one member who is not employed by SHSU, as per Academic Policy Statement 950601. The selection of the committee chair hinges on the student's preference, faculty availability, and expertise. Once a faculty member agrees to assume the role of chair, the student, under the chair's guidance, will proceed to select the remaining

committee members. Subsequently, the committee's constitution needs approval from both the Graduate Coordinator and the Dean. Any alterations to the committee's composition will similarly require approval through the same process.

Master of Science in Information Assurance and Cybersecurity (Non-Thesis Option)

Code	Title	Hours
Master of Science in Information Assurance and Cybersecurity (Non-Thesis Option)		
Specified Courses		
COSC 5325	Operating System Security	3
COSC 5335	Database Security	3
DFSC 5310	Principle and Policy in Information Assurance	3
DFSC 5315	Network and Cyber Security	3
DFSC 5336	Business Continuity Management	3
DFSC 6347	Directed Management and Development Project [1]	3
Prescribed Electives		
Select four graduate courses in DFSC or any approved COSC graduate courses [2]		12
Total Hours		**30**

[1]   Once enrolled in DFSC 6347, the student must enroll in this course until graduation.
[2]   COSC 5301 and COSC 5302 do not count towards the degree plan.

Master of Science in Information Assurance and Cybersecurity (Thesis Option)

The Master of Science in Information Assurance and Cybersecurity (Thesis Option) can better prepare students interested in pursuing Ph.D. degrees or related fields, providing valuable research experience and a strong academic foundation. It also provides students with greater flexibility and choice in how they tailor their academic experience to align with their interests and goals.

Code	Title	Hours
Master of Science in Information Assurance and Cybersecurity (Thesis Option)		
Degree Specific Requirements		
COSC 5325	Operating System Security	3
COSC 5335	Database Security	3
COSC 6049	Thesis	3
COSC 6348	Thesis	3
DFSC 5310	Principle and Policy in Information Assurance	3
DFSC 5315	Network and Cyber Security	3
DFSC 5336	Business Continuity Management	3
Electives		
Select three graduate courses in DFSC or any approved COSC graduate courses [1]		9
Total Hours		**30**

[1]   COSC 5301 and COSC 5302 do not count towards the degree plan.

Master of Science in Information Assurance and Cybersecurity (Professional Option)

The Master of Science in Information Assurance and Cybersecurity (Professional Option) requires only coursework without a thesis or MS project. This plan is suggested for working professionals and individuals seeking to enhance their skills and knowledge in cybersecurity.

Code	Title	Hours
Master of Science in Information Assurance and Cybersecurity (Professional Option)		
Degree Specific Requirements		
COSC 5325	Operating System Security	3
COSC 5330	Malware	3
COSC 5335	Database Security	3
DFSC 5310	Principle and Policy in Information Assurance	3
DFSC 5315	Network and Cyber Security	3
DFSC 5336	Business Continuity Management	3

DFSC 5338	Ethical Hacking	3
Prescribed Electives		
Select three graduate courses in DFSC or any approved COSC graduate courses [1]		9
Total Hours		**30**

[1] COSC 5301 and COSC 5302 do not count towards the degree plan.

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 MS in Information Assurance and Cybersecurity is designed to provide graduates with the following marketable skills:

- Establish and operate an investigator's lab, and process digital evidence.

- Develop plans to safeguard digital files against unauthorized modification and destruction.

- Create plans and implement strategies for preventing attacks to a network.

- Analyze and assess risk and identify vulnerabilities in an organization's network.

- Acquire the professional competency and cybersecurity expertise necessary for roles and responsibilities in business, industry, and governmental positions.