

# Cybersecurity

## Contact Information

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## Assessment

The Computer Science Department assesses all students for communication skills and for knowledge of computer science. Assessment is intended to help students in their academic planning and their development as computer scientists.

The process begins in CSC 305, which must be taken the first semester of enrollment as an Cybersecurity major. The entrance assessment is an examination of the student's knowledge of the core areas of computer science. The process concludes with CSC 305, which must be taken the final semester before graduation. The exit assessment helps students assess their progress and helps the faculty revise the curriculum.

## Departmental Goals and Objectives

In the Bachelor of Science in Cybersecurity, housed in the Department of Computer Science, students will learn the fundamentals of information security including design and implementation of secure systems, security assessment, and computer security ethics. Students will utilize a variety of cutting-edge technologies and labs in many hands-on learning activities.

Graduates of the B.S. in the Cybersecurity program will have the necessary skill set to enter into security-centric careers in network and computer administration, system analysis, computer support, and the like. In addition, students will be equipped to enter into related graduate level programs in Computer Science.

Students have access to an outstanding variety of computing systems including a virtual server farm, a parallel processing cluster, and a hands-on network laboratory.

The UIS Computer Science Department is a Cisco Regional Networking Academy, serving as the instruction center for local academies at high schools, career centers, community colleges, and universities in central Illinois.

The Computer Science Department has been designated as a National Center of Academic Excellence in Cyber Defense Education. The National Security Agency (NSA) and the Department of Homeland Security (DHS) jointly sponsor the National Centers of Academic Excellence in Cyber Defense Education Program. The goal of this program is to reduce vulnerability in our national information infrastructure by promoting higher education and research in IA and producing a growing number of professionals with IA expertise in various disciplines.

## Internships

Students have the opportunity to gain credit toward the degree through internships (IPL). This is an excellent opportunity for students to gain practical in-the-field or on-the-job experience. Placements have

included state agencies, insurance companies, the SIU School of Medicine, computer companies, and other businesses throughout central Illinois. Online students can arrange for local placements.

## The Bachelor's Degree

### Advising

On acceptance, students are assigned an academic advisor. Before registering for the first time, the student should discuss an appropriate course of study with their academic advisor in the major for specific guidance regarding completion of general education requirements.

### Grading Policy

CSC courses must be taken for a letter grade. A cumulative grade point average of 2.00 is required to graduate.

### Program Learning Outcomes

Following completion of the B.S. in Cybersecurity degree students will:

- Exhibit understanding of the crucial concepts of Cybersecurity.
- Demonstrate and communicate best security practices.
- Design and implement secure systems.

## Requirements

### Foundation Requirements

Students may take these entrance requirements at UIS.

CSC 225 & CSC 275	Computer Programming Concepts I and Computer Programming Concepts II
CSC 302/ MAT 115	Discrete Structures or MAT 302 Discrete Mathematics or MAT 114 Finite Mathematics and Its Applications
MAT 113	Business Calculus or MAT 115 Calculus I
MAT 121	Applied Statistics

### Core Courses

The core curriculum provides a strong foundation in Cybersecurity.

Core courses must be taken at UIS. Exceptions may be requested

CSC 305	Entrance Assessment	0
CSC 366	Introduction to Networking	4
CSC 367	Introduction to Cybersecurity	4
CSC 368	Systems Programming Languages	4
CSC 405	Exit Assessment	0
CSC 430	Foundations of Network Security and Information Assurance	4
CSC 437	Introduction to Cryptography	4
CSC 438	Systems Security and Information Assurance Capstone	4

**Elective Courses** 12

**Total Hours** 36

## **Electives**

CSC electives are chosen in consultation with the student's academic advisor, to ensure depth of knowledge in topics of particular interest to the student

Applicable CSC electives are numbered CSC 350 or higher and must be chosen in consultation with a CSC academic advisor.

CSC courses that include "ECCE" in the title may not be counted as an elective.

## **ONLINE**

The on-line format enables students to complete course work using the latest networked information technologies for increased interaction with educational resources, advisors, and materials.

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