

Cybersecurity is the application of measures to protect computers and computer systems from unauthorized access and attack. With the expanding threat of cyber attacks, cybersecurity is one of the fastest growing fields in computer engineering and computer science.

Overview of Skills Developed

As a cybersecurity specialist, you'll be able to:

- analyze and design cyber secure computer systems.
- apply best practices for cybersecurity ethics and ensure an ethically executed security project or practice.
- observe professional ethics codes and guidelines, including Software Engineering Code of Ethics and Professional Practice of ACM (Association for Computing Machinery) and IEEE Computer Society.
- work on multidisciplinary teams to arrive at solutions to cybersecurity and computer engineering problems.

Concentration in Cybersecurity

The Cybersecurity Concentration is an option within the Computer Engineering major and Computer Science major.

The concentration is offered to entering students who declare the concentration on admissions forms or who demonstrate good academic performance in foundation courses.

The **Concentration in Computer Engineering Cybersecurity** prepares you in solving problems resulting from cyber attacks on embedded systems, data storage, Internet of Things, and smart and connected cities. The concentration also prepares you to access the cyber threat impact of new or existing products or processes.

The **Concentration in Computer Science Cybersecurity** prepares you with essential skills and in-depth knowledge for cyber defense and secure software development, as well as advanced techniques such as artificial intelligence and machine learning. With the cybersecurity concentration, you will gain a critical understanding of threats, attacks and vulnerabilities in computer and information systems, and develop the skills needed for cyber defense and operations.

Concentration Requirements

The concentration is completed within the degree program, no additional courses are required.

- The Concentration in Computer Engineering Cybersecurity consists of two core courses and two elective courses.
- The Concentration in Computer Science Cybersecurity consists of four 400-level elective courses.

Minor in Cybersecurity

A **Minor in Computer Engineering Cybersecurity** covers the fields of information security, network security, and computer system security, based upon national training standards recommended by the Department of Defense, the National Security Agency and the Committee on National Security Systems.

A **Minor in Computer Science Cybersecurity** prepares you with advanced skills in cyber defense for possible use against threats, attacks, vulnerabilities, and in-depth knowledge for the development of secure software systems.

Employment Outlook

According the US Bureau of Labor Statistics, employment of information security and cybersecurity analysts is projected to grow 33 percent from 2020 to 2030, much faster than the average for all occupations.

<https://www.bls.gov/>

Median Salary : \$103,590 in May 2020

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Career Placements

UMass Dartmouth graduates with a background in cybersecurity will find exciting and challenging work in a variety of fields including, banking, communications, e-commerce, government, the military, and social media.

Our graduates have secured jobs at:

- CyberArk
- Department of Defense
- Hewlett Packard Enterprise
- Labster
- NAVSEA
- Northrop Grumann
- Raytheon Technologies

More info:

- umassd.edu/programs/computer-scienc-cybersecurity
- umassd.edu/programs/cybersecurity

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