ACADEMIC CATALOG
2026-2027



MIDWAY
UNIVERSITY

Midway University Course Catalog - Computer Science

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Minor in Computer Science

Learning outcomes of program:

- Equip students with skills and techniques to successfully create efficient and effective programs.
- Analyze data needs of an organization and model, build and query databases that support decision making.
- Expose students to emerging topics in the field of information technology.

Requirements

Required Courses:

CSE 150 - Introduction to Computer Science - 3 hours

CSE 200 - Computer Programming I - 3 hours

CSE 250 - Database Systems - 3 hours

Choose three from the following:

CSE 210 - Computer Programming II - 3 hours

CSE 300 - Human Computer Interaction - 3 hours

CSE 310 - Platform Technologies - 3 hours

CSE 320 - Networking - 3 hours

CSE 400 - Cybersecurity - 3 hours

CSE 410 - Mobile Computing - 3 hours

CSE 420 - Emerging Technologies - 3 hours

CSE 430 - AI in Advanced Data Analytics - 3 hours

Courses

CSE 150 - Introduction to Computer Science

This course provides a broad overview of the computing field and helps students explore the vast array of professional paths that the Computer Science major prepares them for.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 200 - Computer Programming I

This is an introduction to object-oriented programming languages. Students will be exposed to programming concepts, data structure and algorithmic processes.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 210 - Computer Programming II

This course introduces advanced programming concepts, efficient problem solving, and further develops algorithmic design.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

Prerequisites:

- CSE 200 - Computer Programming I

CSE 250 - Database Systems

This course examines the theory and architecture of databases. Students will learn to model data, design databases, and write and execute queries.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 300 - Human Computer Interaction

This course addresses the design of interactive applications by applying a user-centered design cycle. The goal of this class is to focus students' attention on usability and relevant user experience when building and creating applications.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 310 - Platform Technologies

Students will focus on hardware and operating systems for computing platforms in this course. They will study the fundamentals of hardware and software and how they integrate to form the essential components of an IT system.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 320 - Networking

Students will focus on network standards, components and requirements of network protocols within a distributed computing setting.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 400 - Cybersecurity

Cybersecurity is one of the most important areas of technology management. Being able to keep an organization's data secure is a top priority for many technology professionals. This course will explore concepts of implementation, operation, analysis and testing of the security of computer technologies.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 410 - Mobile Computing

Technology is on the go. No longer do we sit tethered to a desk to use a computer or access information. This course helps students gain the skills needed to create web-based and mobile applications

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

Prerequisites:

- CSE 210 - Computer Programming II

CSE 420 - Emerging Technologies

This course is designed to present students with new technologies that are gaining importance. The topics of this course can change over course offerings. This course, with a different topic, may be repeated.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 430 - AI in Advanced Data Analytics

This course provides an in-depth exploration of applying existing AI methods to analyze, interact, and interpret different data types, including numerical, text, image, voice, and video data. This course covers practical applications of state-of-the-art (SOTA) AI models and techniques. This course is designed for students who have completed an introductory data science or analytics course and are ready to delve into practical AI applications for advanced data analysis.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 490 - Capstone

This course is an integrative project where students are exposed to a challenging problem. The students will model the problem, propose possible solutions then build a solution. Students will work on aspects of this course individually and other parts will be team-project based.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

CSE 495 - Internship

Internship courses allow practical application of classroom knowledge and intentional development of skills applicable to the student’s professional growth. This experience focuses on the combination and integration of various concepts by applying them to the analysis and solution of problems viewed in the context of computer science. The internship experience requires 135 hours of relevant field work at the internship site in addition to scheduled class meetings. Students will be under the supervision of faculty and site supervisors. Students will gain practical hands-on experience, enhance skills learned in the classroom and acquire contacts with professionals in the field. Students will be expected to complete reflections and demonstrate learning through a final project or presentation.

Grade Basis: P
Credit hours: 3.0

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