# COMPUTER SCIENCE (M.S.)

## Degree Requirements

The Department offers courses on a semester basis. Thirty-six credit hours are required for a master's degree. All students are required to pass the departmental Graduate Area Comprehensive Examination. Upon successful completion of 18 hours of courses, completion of the Graduate English Proficiency Exam, completion of the core courses, and maintaining a 3.0 GPA, students will be eligible to take the Graduate Area Comprehensive Exam. Students will be tested on content covered in each of the core courses.

Students can choose one of the three-degree options: *Thesis*, *Project*, or *Course-only* option.

## Areas of Emphasis

- Networks & Communications
- Software Engineering
- Computer Architecture
- Information Systems
- Algorithm Design & Analysis
- Artificial Intelligence
- Parallel/Distributed Computing
- Informatics
- Modeling and Simulation
- Data Science
- Computability & Complexity
- Cyber Security

## Course Requirements for the Degree Options

All the three-degree options require 36 credits, out of which 12 credits of core courses and 9 credits of major courses are required. The option specific requirements are:

- *Thesis:* Electives (6 credits) and CSC 599 THESIS RESEARCH (1-6 s.h.) (6 credits)
- *Project:* Electives (9 credits) and CSC 595 (3 credits)
- *Course-only:* Electives (15 credits)

| Code | Title | Hours |
|---|---|---|
| **Core Courses** | | |
| CSC 511 | OBJECT-ORIENTED PROGRAMMING | 3 |
| CSC 515 | DATA STRU ALGORITH ANALY | 3 |
| CSC 518 | PRIN OPRTNG SYST CMP ARC | 3 |
| CSC 512 | COMPUTER ARCHITECTURE | 3 |
| **Major Courses** | | |
| Select three of the following: | | 9 |
| CSC 519 | PRIN PROG SYSTEMS & LANG | |
| CSC 620 | DATABASE MANAGEMENT SYSTEMS | |
| CSC 524 | COMP COMM NETWK DIST PRO | |
| CSC 527 | REAL TIME SYSTEMS | |
| CSC 530 | THEORY OF COMPUTATION | |
| CSC 537 | CLOUD COMPUTING | |
| CSC 541 | CRYPTO AND NETWORK SECURITY | |
| CSC 545 | ARTIFICIAL INTELLIGENCE | |
| CSC 551 | PARALLEL & DISTRIBUTED COMPUTI | |
| CSC 560 | SOFTWARE ENGINEERING | |
| **Total Hours** | | **21** |

## Electives

The elective courses that can be included in the student's degree plan must be approved by the student's Major Advisor and the Department Chair. The elective courses need to be of CSC course prefix and have to be at the 5xx and/or 6xx-levels.

## Total Required for the Degree

(Thesis or Project options: **33 credits)** and (Course-only option: **36 credits)**