# COMPUTER SCIENCE AND INFORMATION SYSTEMS

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The Department offers graduate programs leading to the degrees of master of science in computer science and master of science in computer information systems. These courses of study are designed to prepare students for professional careers in the field of computing and information processing or for further study and research.

Computer science is the study of theoretical and algorithmic foundations used in computer systems. Students are taught how to gather and analyze requirements, design, develop and test software systems, and devise new innovations and applications in computing. Computer information systems is a discipline that focuses on information technology and a wide variety of scientific, engineering, and business applications; the mathematical requirements for computer information systems are not as rigorous as they are for computer science because there is less focus on theoretical foundations.

Students in the Master of Science in Computer Science and Master of Science in Computer Information Systems programs concentrate their study in various areas of computing, including

1. Emerging Topics (MS in Computer Science or MS in Computer Information Systems)
2. Data Science (MS in Computer Science or MS in Computer Information Systems)
3. Software Engineering (MS in Computer Science or MS in Computer Information Systems)
4. Cybersecurity (MS in Computer Science or MS in Computer Information Systems)
5. Web Technologies and Systems (MS in Computer Science or MS in Computer Information Systems)

Combined Bachelor of Science/Master of Science (4+1) programs are available in Computer Science and Computer Information Systems.

Computer science and computer information systems graduates are employed by a variety of industries and non-profit organizations as software engineers and/or developers, system administrators and/or developers, system analysts, network administrators, web developers and/or technologists, software test engineers, and database administrators and/or developers.

In addition to satisfying all Graduate Education requirements for the degree, all candidates for the master's degree must satisfy the following departmental requirements:

1. At least 30 hours of graduate-level coursework. The course CS 502 Advanced Programming does not count as part of the total hours needed.
2. No "D" grades can be counted in the completion of requirements for the degree.
3. Every student must pass a comprehensive assessment that will be based on the core requirements for the program pursued.

Interested and qualified students are offered the option of writing a master's thesis. Students selecting this option are encouraged to choose an advisor and topic as early as possible in order to plan the thesis development and any needed supporting coursework. The following policies apply to theses:

1. A minimum grade point average of 3.5 in computer science and computer information systems graduate courses is required for students enrolling in CS 699 Thesis in Computer Science (Thesis).
2. No student may register for CS 699 Thesis in Computer Science until 9 hours of graduate courses have been completed in the department.
3. Six credit hours of CS 699 Thesis in Computer Science are required and, upon completion, the thesis must be defended in an oral examination. No grade will be given for CS 699 Thesis in Computer Science until after the oral defense.
4. A written outline of the thesis project and a tentative schedule must be submitted to and approved by the graduate coordinator and the chair prior to the registration for CS 699 Thesis in Computer Science.

Students in the CS and CIS programs may register for only three courses and be on the wait list for up to seven additional semester hours, not going over 16 semester hours. Any exceptions must be approved by the department chair.

Admission requirements and graduation requirements specific to computer science and computer information systems vary by program and are listed on the individual program pages. Students must meet or exceed all requirements listed to be admitted. Exceptions to the admissions criteria are exceedingly rare, however, may be made at the discretion of the department chair. Admission to these programs is highly competitive.

- Computer Information Systems (BS/MS 4+1 Program)
- Computer Information Systems - Cybersecurity Concentration (MS)
- Computer Information Systems - Data Science Concentration (MS)
- Computer Information Systems - Emerging Topics in Computer Information Systems Concentration (MS)
- Computer Information Systems - Software Engineering Concentration (MS)
- Computer Information Systems - Web Technologies and Systems Concentration (MS)
- Computer Science (BS/MS 4+1 Program)
- Computer Science (MS)
- Computer Science - Cybersecurity Concentration (MS)
- Computer Science - Data Science Concentration (MS)
- Computer Science - Emerging Topics in Computer Science Concentration (MS)
- Computer Science - Software Engineering Concentration (MS)
- Computer Science - Web Technologies and Systems Concentration (MS)
- Post-Baccalaureate Certificate in Computational Data Science