ARTIFICIAL INTELLIGENCE, MS

The MS in AI will provide students with the foundation needed for students to work at the forefront of artificial intelligence and will prepare students to conduct transformative research at the PhD level. This degree provides an in-depth study and will differ from programs that provide a cursory examination of the topics of artificial intelligence. Our focus on the computational aspects of AI requires students to have a background in programming, mathematics, and statistics. This degree provides students with the knowledge and skills to contribute to one of the fastest-growing technologies today.

Admissions

In addition to meeting the admission requirements established by the Graduate School, students applying for graduate study in the department must also meet the following general requirements:

- Demonstrated competence in programming and math.
- A BS degree in computer science or another STEM discipline (earned by the time of initial enrollment), or equivalent industry experience is required for admission into the program.

See the Admission Criteria section of this catalog for more information.

Curricular Requirements

Master of Science

Departmental degree requirements for the MS degree, which are in addition to those established by the College and by the Graduate School, are as follows for Plan I and Plan II students:

- Each Plan I candidate must earn a minimum of 24 semester hours of credit for coursework, plus a six-hour thesis under the direction of a faculty member.
- Each Plan II candidate must earn a minimum of 30 semester hours of credit for coursework, which may include a three-hour non-thesis project under the direction of a faculty member.
- Unlike the general College of Engineering requirements, graduate credit may not be obtained for courses at the 400-level.

Master of Science - Thesis Option (Plan I)

Code and Title		Hours
Required Courses (12 hours)		
CS 523	Python for Big Data	3
CS 565	Artificial Intelligence	3
CS 566	AI Computation and Theory	3
CS 583	Comp Foundations of ML	3
Electives (choose 12 hours)		
CS 551	Data Science	3
CS 560	Intro to Autonomous Robotics	3
CS 561	Brain Computer Interface	3
CS 563	Computer Vision	3
CS 581	High Performance Computing	3
CS 584	Reinforcement Learning	3
CS 651	Deep Generative Modeling	3
CS 665	Intelligent Robotics	3
CS 683	Large Language Models	3
Thesis/Research (6 hours)		
CS 599	Thesis Research	6
Total Hours		**30**

Master of Science - Non-Thesis Option (Plan II)

Code and Title		Hours
Required Courses (12 hours)		
CS 523	Python for Big Data	3
CS 565	Artificial Intelligence	3
CS 566	AI Computation and Theory	3
CS 583	Comp Foundations of ML	3
Electives (choose 18 hours)		
CS 551	Data Science	3
CS 560	Intro to Autonomous Robotics	3
CS 561	Brain Computer Interface	3
CS 563	Computer Vision	3
CS 581	High Performance Computing	3
CS 584	Reinforcement Learning	3
CS 598	Non-Thesis Research	3
CS 651	Deep Generative Modeling	3
CS 665	Intelligent Robotics	3
CS 683	Large Language Models	3
Total Hours		**30**

Transfer Credit

Information on transfer credit can be found here.

Comprehensive Exam

The student will complete a comprehensive exam. This exam is scheduled with the Graduate Program Director in the semester in which the student intends to graduate.

Plan I - Thesis Process Requirements

- The student must select a thesis advisor and a thesis committee. The committee must contain at least four members, including the thesis advisor. At least two members are faculty of the Computer Science department, and at least one member must be from outside the Department of Computer Science.
- The student must develop a written research proposal that contains an introduction to the research area, a review of relevant literature in the area, a description of problems to be investigated, an identification of basic goals and objectives of the research, a methodology and timetable for approaching the research, and an extensive bibliography.
- The student must deliver an oral presentation of the research proposal, which is followed by a question-and-answer session that is open to all faculty members and which covers topics related directly or indirectly to the research area. The student's committee will determine whether the proposal is acceptable based upon both the written and oral presentations.
- The student must develop a written thesis that demonstrates that the student has performed original research that makes a definite

contribution to current knowledge. Its format and content must be acceptable to both the student's committee and the Graduate School.
- The student must defend the written thesis. The defense includes an oral presentation of the thesis research, followed by a question-and-answer session. The student's committee will determine whether the defense is acceptable.

Plan II - Non-Thesis Process Requirements

- The student may elect to replace 3 hours of course work with 3 hours of CS 598 Non-Thesis Research.
- The non-thesis research should be proposed in writing in advance, approved by the instructor, and a copy placed in the student's file.
- The non-thesis proposal should specify both the course content and the specific deliverables that will be evaluated to determine the course grade.

Time Limits for Degree Completion Requirements

Information on time limits for degree completion can be found here.

Student Progress Requirement

Student progress requirements are located here.

Academic Misconduct Information

Academic Misconduct information can be found here.

Withdrawals and Leave of Absence Information

Information regarding withdrawals and leave of absences is located here.

Academic Grievances Information

Scholastic Grievances information is located here.

Grades and Academic Standing

Scholastic Requirements information is located here.

Graduate School Deadlines Information

Graduate School deadlines can be found on the Graduate School website.

Application for Graduation Information

Master's degree application information can be found here.