# ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING (AIML)

## Artificial Intelligence and Machine Learning Graduate Courses

**AIML 8910 MASTER OF SCIENCE CAPSTONE (3 credits)**
The capstone course is designed to integrate coursework, knowledge, skills, and experiential learning, allowing students to demonstrate comprehensive mastery across the Artificial Intelligence and Machine Learning (AIML) master's curriculum. Its goal is to prepare students for initial employability and long-term career advancement. This student-centered and student-directed course emphasizes the command, analysis, and synthesis of knowledge and skills. Students apply what they have learned to a project that serves as a key component of their evaluation. The course also encourages interdisciplinary research and fosters collaboration with industry partners.
**Prerequisite(s):** Only available for Artificial Intelligence MS course only option. Students should enroll in this capstone course only after completing at least three-fourths of the required coursework for the major. Not open to non-degree graduate students.

**AIML 8950 GRADUATE INTERNSHIP IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING (1-3 credits)**
The purpose of this course is to provide students with opportunities to apply their academic studies in environments such as those found in business, industry, and other non-academic organizations. The student interns will sharpen their academic focus and develop better understanding of non-academic application areas.
**Prerequisite(s):** Permission of the graduate program chairperson and a minimum grade point average of 3.0 (B), with at most one grade below B, but not lower than C+ for all CS graduate classes. Not open to non-degree graduate students.

**AIML 8960 THESIS EQUIVALENT PROJECT IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING (1-6 credits)**
This course provides graduate students the opportunity to conduct an independent research project in Artificial Intelligence, Machine Learning or a closely related area. Projects are expected to emphasize applied, implementation-driven, or experimental research, allowing students to demonstrate practical mastery of AI techniques, models, and methodologies. This course provides students with the opportunity to integrate AI theory and practice, develop independent research skills, and produce a significant contribution to solving real-world problems through applied AI methods.
**Prerequisite(s):** Permission of Graduate Adviser. The project approval process includes: Appointment of a supervisory committee chaired by project adviser; preparation and approval of project proposal by the supervisory committee. Not open to non-degree graduate students.

**AIML 8970 INDEPENDENT STUDY (1-3 credits)**
The Independent Study course provides graduate students the opportunity to pursue a self-directed, in-depth exploration of a specialized topic in Artificial Intelligence (AI), Machine Learning (ML) or a closely related field. This course is designed for students who wish to engage in focused research, advanced experimentation, or the development of AI models and software beyond the scope of standard coursework. Students work under the guidance of a faculty adviser to define the scope, objectives, and expected outcomes of the study. Throughout the course, students are expected to demonstrate initiative, critical thinking, and technical proficiency by conducting literature reviews, formulating research questions or project goals, implementing experiments or AI systems, analyzing results, and documenting findings. Regular meetings with the faculty adviser provide feedback, guidance, and assessment of progress.
**Prerequisite(s):** Permission of the Graduate Program Committee. Not open to non-degree graduate students.

**AIML 8990 THESIS (1-6 credits)**
A research project, designed and executed under the supervision of the chair and approval by members of the graduate student's thesis advisory committee. In this project, the student will develop and perfect a number of skills including the ability to design, conduct, analyze and report the results in writing (i.e., thesis) of an original, independent scientific investigation.
**Prerequisite(s):** Permission of Graduate Adviser. Not open to non-degree graduate students.