

ARTIFICIAL INTELLIGENCE MASTER OF SCIENCE

Leading to a Master of Science Degree in Artificial Intelligence

The Master of Science in Artificial Intelligence (MSAI) program provides advanced education in the theories, algorithms, and computational methods that underpin intelligent systems. Students gain expertise in core areas such as machine learning, natural language processing, computer vision, and large language models, while also exploring emerging topics in prompt engineering, agentic AI systems, and explainable AI. The curriculum emphasizes both the theoretical foundations and hands-on application of AI technologies to real-world challenges across domains. Through project-based learning, research preparation, and flexible elective options, students develop the technical depth and problem-solving skills needed for careers in AI engineering, data science, and applied research, as well as the scholarly foundation for doctoral study.

Program Educational Objectives

- Apply advanced AI techniques to solve complex real-world problems.
- Demonstrate ethical, innovative, and collaborative practices in AI-driven problem solving.
- Pursue lifelong learning, research, and professional growth in emerging AI technologies.

Student Outcomes

- Demonstrate mastery of the theoretical and algorithmic foundations of artificial intelligence, including learning, reasoning, and perception.
- Implement intelligent systems that leverage modern AI techniques such as machine learning, natural language processing, and Large Language Models.
- Evaluate AI models for accuracy, scalability, interpretability, and performance in applied contexts.
- Communicate technical findings or research outcomes effectively to both professional and academic audiences.

Total: 30 credits. The program consists of 4 Core courses and 6 Electives.

Core Courses:

Course	Title	Credits
AAIN7001	FOUNDATIONS OF ARTIFICIAL INTELLIGENCE	3
COMP6999	TECHNICAL PROJECTS DEVELOPMENT	3
COMP6710	PRINCIPLES OF MACHINE LEARNING	3
AAIN7420	DATA ENGINEERING FOR AI	3
Total Credits		12

Electives:

Course	Title	Credits
COMP5100	NATURAL LANGUAGE PROCESSING	3
COMP5750	EMBEDDED ARTIFICIAL INTELLIGENCE	4
COMP6760	COMPUTER VISION	3
COMP7025	Sports Analytics	4

Course	Title	Credits
COMP7350	BIG DATA SYSTEMS	3
COMP7600	THESIS	3
COMP7700	CLASSICAL ARTIFICIAL INTELLIGENCE	3
COMP7800	GRADUATE SPECIAL TOPICS IN APPLIED COMPUTER SCIENCE	4
AAIN5720	TRUSTWORTHY GENERATIVE AI	3
AAIN7410	AGENTIC AI SYSTEMS	3
AAIN7422	EXPLAINABLE ARTIFICIAL INTELLIGENCE	3
AAIN7424	INTELLIGENT SYSTEMS	3
AAIN7430	PROMPT ENGINEERING	3
DATA6300	ADVANCED TOPICS IN LARGE LANGUAGE MODELS	3
DATA6710	APPLIED DEEP LEARNING	3
DATA6999	CAPSTONE	3
CYBR5740	ADVERSARIAL ROBUSTNESS IN MACHINE LEARNING	3
MATH5700	MATHEMATICS FOR MACHINE LEARNING	3
MATH7800	GRADUATE SPECIAL TOPICS IN APPLIED MATHEMATICS	4