

Business Applications in Artificial Intelligence Graduate Certificate (2027-2028 Catalog)

Management Information Systems

College of Business

The proposed Graduate Certificate in Artificial Intelligence is designed to provide a focused, skill-based credential for graduate students seeking applied expertise in artificial intelligence, machine learning, data analytics, and business applications programming. The certificate follows a simple design philosophy: a strong certificate makes a limited promise and keeps it. The credential is intentionally narrow in scope, emphasizing a coherent set of AI-related competencies that are increasingly expected of information systems professionals. The curriculum is self-contained, built from existing graduate coursework, and provides a clear and predictable pathway from foundational programming skills through analytics, artificial intelligence, and machine learning applications.

The certificate consists of five courses; the student should complete any four of these courses:

- ISAM 5030 Fundamentals of Business Applications Programming
- ISAM 5735 Data Analytics With AI
- ISAM 5736 Fundamentals of Artificial Intelligence
- ISAM 5531 Applied AI for Business
- ISAM 5532 Machine Learning in Business

All five courses are currently required components of the M.S. in Management Information Systems (MIS), making the certificate a fully stackable credential within that degree program. As a result, MIS students may earn a transcribed credential without additional coursework while progressing toward their graduate degree. At the same time, the certificate remains accessible to students from other graduate programs, who can complete the prescribed sequence, thereby extending the reach of their credentials beyond a single discipline.

The proposal responds directly to significant changes in employer demand and workforce needs. Artificial intelligence technologies are rapidly transforming how organizations collect data, automate processes, support decision making, develop products and services, and create competitive advantage. Management information systems professionals are increasingly expected not only to understand information technology infrastructure but also to design, implement, evaluate, and manage AI-enabled business

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solutions. The integration of generative AI, predictive analytics, machine learning, intelligent automation, and data-driven decision support systems has moved from an emerging specialty to a core professional competency in many technology and business functions.

Labor market projections indicate sustained growth for occupations associated with artificial intelligence, analytics, and information systems management. The U.S. Bureau of Labor Statistics projects employment growth well above the national average for data scientists, computer and information systems managers, and related technology occupations. At the same time, national employer surveys and workforce studies identify artificial intelligence, big data, technological literacy, and analytical thinking among the fastest-growing skill categories expected to shape hiring decisions during the coming decade.

The certificate is also expected to contribute to enrollment growth within the College of Business. Stackable credentials provide a mechanism for attracting working professionals seeking targeted skill development while simultaneously supporting degree completion pathways. For prospective students, the certificate serves as a recognizable market signal that highlights specific AI-related competencies embedded within the MIS curriculum. For current students, it offers an additional credential that can be documented on academic transcripts and communicated to employers. Increasingly, employers seek evidence that graduates possess practical AI capabilities applicable to business settings rather than simply broad technical knowledge. Recent employer surveys indicate rapidly growing demand for graduates able to use AI tools, analyze data, support AI-enabled business processes, and participate in technology-driven organizational transformation.

Because the certificate is composed entirely of existing courses that are already required within the M.S. MIS program and offered on a regular schedule, the credential can be implemented with minimal administrative burden while providing meaningful value to students and employers. The curriculum will continue to be reviewed periodically against developments in artificial intelligence, information systems practice, relevant industry certifications, and employer expectations to ensure the credential remains current, credible, and aligned with workforce needs.

- U.S. Bureau of Labor Statistics, *Occupational Outlook Handbook: Data Scientists* (35% projected growth, 2025-2035). [[bls.gov](https://www.bls.gov)]
- U.S. Bureau of Labor Statistics, *Occupational Outlook Handbook: Computer and Information Systems Managers* (projected growth above average). [[bls.gov](https://www.bls.gov)]

- World Economic Forum, *Future of Jobs Report 2025* (AI and Big Data identified as the fastest-growing skills category; AI expected to transform business operations globally). [\[weforum.org\]](https://www.weforum.org), [\[weforum.org\]](https://www.weforum.org)
- National Association of Colleges and Employers (NACE), *Job Outlook 2026 Spring Update and Demand for AI Skills in Entry-Level Jobs Nearly Triples Since Fall 2025*. [\[naceweb.org\]](https://www.naceweb.org), [\[naceweb.org\]](https://www.naceweb.org)

Catalog Description

The Graduate Certificate in Artificial Intelligence provides students with the technical and analytical competencies needed to design, implement, evaluate, and manage artificial intelligence solutions in organizational settings. The curriculum develops proficiency in business applications programming, data analytics, artificial intelligence concepts, machine learning methods, and the application of AI technologies to business decision making and organizational performance.

Students completing the certificate will develop skills in:

- Business applications programming and technology solution development
- Data preparation, analysis, visualization, and AI-assisted analytics
- Artificial intelligence concepts, methods, and business applications
- Machine learning model development and evaluation
- AI-enabled decision support and process automation
- Application of emerging AI technologies to organizational challenges
- Data-driven problem solving and technology implementation

These competencies support a variety of career paths across information systems, analytics, and technology-enabled business functions. The certificate is particularly relevant for professionals pursuing careers such as business analyst, systems analyst, data analyst, business intelligence analyst, AI analyst, information systems manager, analytics consultant, technology consultant, data product specialist, digital transformation professional, and other roles requiring the effective use of artificial intelligence and machine learning within organizations.

The certificate is designed as a stackable credential within the Master of Science in Management Information Systems program. Because all certificate courses are required components of the M.S. MIS curriculum, students enrolled in that degree program may earn the certificate while completing degree requirements. The certificate is also available

to graduate students from other disciplines who seek specialized preparation in the application of artificial intelligence to business and organizational settings.

Introductory passages about the program and admission requirements

Courses- Total Credit Hours=12

- 1. ISAM - 5030 - Fundamentals of Business Programming Applications 3**
- 2. ISAM - 5531 - Generative AI for Business 3**
- 3. ISAM - 5532 - Machine Learning in Business 3**
- 4. ISAM - 5735 - Data Analytics with AI 3**
- 5. ISAM - 5736 - Fundamentals of Artificial Intelligence 3**

No new courses

It is embedded/stackable within the degree plan

Plan Description

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Texas Program CIP Code: 11.0401.00 02

Delivery

Face to Face

Hybrid

100% Online

UHCL Main Campus

Starting Fall 2027