

University Council

March 14, 2025

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Dear Colleagues:

The attached proposal from the Terry College of Business for an Undergraduate Certificate in Artificial Intelligence - Business will be an agenda item for the March 14, 2025, Full University Curriculum Committee meeting.

Sincerely,

Susan Sanchez, Chair

cc: Provost S. Jack Hu Dr. Marisa Pagnattaro

PROPOSAL FOR A CERTIFICATE PROGRAM

Date: March 14, 2025

School/College/Unit: Terry College of Business

Department/Division: Management Information Systems

Certificate Title: Undergraduate Certificate in Artificial Intelligence - Business

CIP: <u>11010201</u>

Effective Term: Fall 2025

Which campus(es) will offer this certificate? Athens

Level (Undergraduate, Graduate, or Post-Baccalaureate): Undergraduate

Program Abstract

The Undergraduate Certificate in Artificial Intelligence – Business is intended to provide a foundation in the principles and techniques of artificial intelligence (AI) for contemporary business problems. It is also intended to provide the skills necessary to apply AI-based technologies to solve problems in a variety of industries, evaluate both the technical performance of AI-based solutions and their potential ethical and societal implications, and communicate AI concepts and findings to business leaders, consumers, and other stakeholders. The proposed certificate is suited for any student enrolled in the Terry College of Business with an interest in AI and its applications.

1. Purpose and Educational Objectives

State the purpose and educational objectives of the program. How does this program complement the mission of the institution?

The past decade has seen dramatic acceleration in both AI's development and its adoption across industries. In business, AI-driven tools now power critical decision-making processes, shape customer experiences, and influence strategic planning. Yet, many undergraduate business programs have not fully integrated AI concepts into their curricula, leaving graduates underprepared to apply these transformative technologies in a responsible, ethical, and effective manner. The proposed Undergraduate Certificate in Artificial Intelligence - Business aims to address this gap by providing business students with the foundational knowledge and hands-on experience they need to thrive in today's data-driven marketplace. Aligned with the University's mission to foster high levels of student achievement and deliver a robust, supportive teaching environment, this initiative will equip undergraduates with essential AI competencies that will serve them throughout their professional and personal lives.

2. Need for the Program

Explain why this program is necessary.

The proposed certificate is interdisciplinary and requires computation-oriented training, training in the ethical and social implications of AI, and exposure to relevant use cases in industry. The

certificate will complement existing bachelor's degree programs provided by the Terry College of Business, as there is no undergraduate major in the field of artificial intelligence at the University at this time. For students majoring in Business Administration (B.B.A.), a certificate in AI would provide a clear signal of the student's interest in and training for roles involving AI.

The need for AI skills in industry is also clear. Gartner lists AI imperatives and risks as one category of its top 10 strategic technology trends for 2025 (link). A further analysis by Gartner estimates that as much as 80% of the workforce will need to upskill to meet the demand for new roles in software development and operations by 2027 (link). Finally, research from Accenture (link) explores the future of work with respect to the growing prevalence of AI. Their findings indicate that nearly 70% of industry executives surveyed believe AI is prompting an urgent need to reinvent business processes and operational strategies. Thus, the proposed certificate fills a growing and vital need in the business sector.

In addition, provide the following information:

- a. Semester/Year of Program Initiation: Fall 2025
- b. Semester/Year of Full Implementation of Program: Fall 2025
- c. Semester/Year First Certificates will be awarded: Fall 2026
- d. Annual Number of Graduates expected (once the program is established): 100-200
- e. Projected Future Trends for number of students enrolled in the program: 200+

3. Student Demand

Provide documentation of evidence of student demand for this program, including a student survey.

Interest in AI at a societal level is currently exceptionally high and likely to remain so for many years. This is also true at UGA and most other institutes of higher education. At UGA, there is strong enrollment in the Terry College of Business (5,909 undergraduate majors as of Spring 2024), particularly in analytical fields such as Management Information Systems (860), Finance (1,339), or Marketing (877). It is expected many of these students would find the certificate attractive given the current marketplace.

To better gauge interest in the certificate, a survey was created and distributed to students enrolled in MIST 2090, Introduction to Information Systems in Business. These are students enrolled from across the Terry College of Business, as it is required for all undergraduate majors offered by the college. The survey received 196 responses, and the statistics are summarized below.

	Strongly	Disagree	Neutral	Agree	Strongly
	Disagree				Agree
If an AI certificate is created, I	10	9	33	73	71
would consider pursuing it.	(5.1%)	(4.6%)	(16.8%)	(37.2%)	(36.2%)
An AI certificate would	8	13	37	72	66
complement my chosen primary	(4.1%)	(6.6%)	(18.9%)	(36.7%)	(33.7%)
degree program and/or provide					
skills I anticipate needing in my					
work after graduation.					

It is important to me that the	7	2	13	70	104
certificate provides training to	(3.6%)	(1%)	(6.6%)	(35.7%)	(53.1%)
understand how AI tools work and					
how to successfully use them.					
It is important to me that the	9	13	35	64	75
certificate provides training to	(4.6%)	(6.6%)	(17.9%)	(32.7%)	(38.3%)
create new or modify existing AI					
technologies.					
It is important to me that the	6	5	22	56	107
certificate provides training in the	(3.1%)	(2.6%)	(11.2%)	(28.6%)	(54.6%)
ethical and societal implications of					
AI.					

If an AI certificate is created, I would consider pursuing it. 179 responses



An AI certificate would complement my chosen primary degree program and/or provide skills I anticipate needing in my work after graduation.

179 responses



It is important to me that the certificate provides training to understand how AI tools work and how to successfully use them.

179 responses



It is important to me that the certificate provides training to create new or modify existing AI technologies.

179 responses



It is important to me that the certificate provides training in the ethical and societal implications of AI.

179 responses



b. Provide evidence that demand will be sufficient to sustain reasonable enrollment.

Given the above, the faculty do not believe that continued demand will be an issue.

c. To what extent will minority student enrollments be greater than, less than, or equivalent to the proportion of minority students in the total student body?

The faculty anticipate that participation in the certificate by minority students will be proportionate to the balance of minority students in the broader Terry College of Business.

The Terry College is 71.2% white and 43.5% female according to the Office of Instructional Research¹. Within the Management Information Systems department, the major had 872 students as of Spring 2024; 463 (53.8%) identified as White, and 323 (37.6%) self-reported their gender as female. Thus, it is anticipated that the certificate will be roughly between these proportions.

4. Program of Study

Provide a detailed program of study for the certificate program, including:

a. Specific course prefixes, numbers, and titles

Students completing the certificate must earn a grade of "C-" (1.7) or better in each of the required courses. At least 15 credit hours are required to earn the certificate, as described below. These courses may also require prerequisites which students will need to complete.

Foundational Courses (required, 9 hours)

Students are expected to take three foundational courses in programming, fundamentals of artificial intelligence, and ethics. Courses can be taken entirely from the college's current offerings or can be taken from other departments on campus to maximize flexibility. Some course options outside of the Terry College of Business may have additional prerequisites. The course options are as follows:

Programming

MIST 4600, Computer Programming in Business (3 hours)

Fundamentals of AI

Choose one of the following courses. MIST 5400, Foundations of Artificial Intelligence in Business (3 hours) – NEW CSCI(PHIL) 4550/6550, Artificial Intelligence (3 hours)

Ethics of AI

Choose one of the following courses. ARTI(PHIL) 2130, AI for Humans: Learning to Live with AI (3 hours) ARTI(PHIL) 4340/6340, Ethics and Artificial Intelligence (3 hours) MIST 5440/7440, AI in Business and Society (3 hours)

¹ This figure includes both current and intended majors. <u>https://oir.uga.edu/data/facts/enrlmj/majortrend/</u>

Business Elective Courses (6 hours)

Students will take at least two additional elective courses. These courses can come from one of two groups. Students can take either **two courses** from Group 1 or **one course each** from Group 1 and Group 2 to complete the Certificate.

Group 1

MIST 5450, Generative Artificial Intelligence (3 hours) – NEW MIST 5635/7635, Machine Learning and Business Analytics (3 hours)

Group 2

BUSN 4400, Business, Systems, and Technology Innovation (3 hours) BUSN 5000, Introduction to Data Science for Business and Economics (3 hours) ENTR 5090, Design Thinking (3 hours) MIST 55XX², User Experience and Design Thinking (3 hours) – **NEW**

The list of approved electives may be expanded as new offerings from across the Terry College of Business are approved for inclusion. The faculty will use the following criteria to evaluate these electives for inclusion in the certificate.

For courses to be regarded as electives in Group 1, the course should predominantly deal (i.e., more than 65% of the content) with AI as it directly pertains to a particular discipline and requires substantive hands-on deliverables using AI in the course.

For courses to be considered as electives in Group 2, the course must somewhat deal (i.e., more than 25% of the content) with AI as it directly pertains to a particular discipline or must deal predominantly (i.e., more than 65% of the content) with a topic that is adjacent to applications of AI (e.g. design thinking). When the AI adjacency is unclear, the faculty welcome descriptive statements in the course syllabus where this connection is made explicit.

Additionally, courses in both Group 1 and Group 2 should allow the use of Generative AI for a substantive portion of the course deliverables.

b. Identify any new courses created for this program.

The courses MIST 5400, Foundations of AI in Business, and MIST 5450, Generative Artificial Intelligence, were both created specifically to support this certificate program.

5. Model Program and Accreditation

a. Identify any model programs, accepted disciplinary standards, and accepted curricular practices against which the proposed program could be judged. Evaluate the extent to which the proposed curriculum is consistent with these external points of reference and provide a rationale for significant inconsistencies and differences that may exist.

Across the University of Georgia's peer public institutions, there are no known degree programs specifically in artificial intelligence (AI) designed for business undergraduates, including bachelor's degrees, minors, or certificates. Most programs offer courses in data analytics, business intelligence, and data mining, while some offer courses related to AI. The introduction

² This course is in development and a proposal will be finalized in CAPA prior to implementation.

of an AI – Business certificate would give the University of Georgia's Terry College of Business a clear advantage in the AI education space.

Review: To identify peer institutions, schools were selected from the UT Dallas ranking³ based on publications in top business journals. Schools that were private or based outside the United States were removed. Schools without an undergraduate program were also excluded. The final list of twenty schools surveyed is below:

Arizona State University (W.P. Carey School of Business) Georgia Institute of Technology (Scheller College of Business) Georgia State University (J. Mack Robinson School of Business) Indiana University at Bloomington (Kelley School of Business) Purdue University (Krannert School of Management) Temple University (The Fox School of Business and Management) Texas Tech University (Rawls College of Business) University of Arizona (Eller College of Management) University of Arkansas at Fayetteville (Sam M. Walton College of Business) University of Connecticut (School of Business) University of Florida (Warrington College of Business) University of Houston (C.T. Bauer College of Business) University of Maryland at College Park (Robert H. Smith School of Business) University of Minnesota at Twin Cities (Carlson School of Management) University of South Florida (Muma College of Business) University of Texas at Austin (McCombs School of Business) University of Texas at Dallas (Naveen Jindal School of Management) University of Virginia, McIntire (McIntire School of Commerce) University of Washington at Seattle (Michael G. Foster School of Business) Virginia Polytechnic Institute and State University (Pamplin College of Business)

Each of these programs are research-active public institutions in the U.S. offering a bachelor's degree in MIS, information systems, computer information systems, information technology, or business analytics. These majors are emphasized given their higher likelihood of offering AI-specific educational programs.

Across these twenty institutions, none offer a formal program in AI. This includes minors, certificates, and concentrations. Two schools did offer something related; Georgia State University offers a graduate certificate in AI (link), and the University of Maryland has an

³ https://jsom.utdallas.edu/the-utd-top-100-business-school-research-rankings/

affiliated AI institute that offers designated courses (<u>link</u>). In summary, UGA would gain a competitive advantage by being an early mover and offering the proposed certificate.

Courses Offered: Many of the institutions listed offer similar courses to offerings at UGA, and a majority offered at least one course in advanced analytics or AI. The most common courses were:

- Big Data Analytics
- ML for Business
- Predictive Analytics
- Business Analytics with Python
- Data Science and Society
- Emerging Technologies

Note that these courses are related to AI from a technical perspective and are generally focused more on machine learning and data analysis, not on AI applications or new techniques (e.g., LLMs). There were, however, a few instances of AI-specific course offerings:

- Ethical Applications of AI (University of Virginia, McIntire)
- Foundations of Business Analytics and AI (University of Florida)
- Introduction AI (University of Houston)
- ML and Responsible AI (University of Minnesota at Twin Cities)
- Societal Impact of AI (University of Maryland)

In summary, most schools primarily teach AI through the lens of "business analytics," and at most offer one to two courses dealing specifically with AI implications for business or society.

Offerings at UGA: In addition to the proposed certificate, the Institute of Artificial Intelligence in the Franklin College of Arts and Sciences is offering an Undergraduate Certificate in Artificial Intelligence – Computing beginning fall 2025 which shares many of the goals of this program, albeit for a different set of students. In particular, the core curriculum of that certificate has a series of prerequisites that are not accessible to most students in the Terry College of Business. This barrier to entry can be alleviated by providing a certificate tailored to the needs of business students.

b. If program accreditation is available, provide an analysis of the ability of the program to satisfy the curricular standards of such specialized accreditation.

There are no accreditation bodies for AI programs.

6. Student Learning Outcomes

Describe the proposed learning outcomes for the certificate program.

Upon completing the certificate, students will achieve the following three learning outcomes:

• AI Fundamentals: Students should be able to identify and explain the fundamental concepts of artificial intelligence and articulate the ethical issues and societal impacts associated with AI. An emphasis will be placed on effects on the workforce, employee training and retention, and risks for organizations associated with AI tools.

- AI Business Problem Formulation: Students will be able to analyze business problems to determine the suitability of different AI technologies as a solution to the problem. Students will also learn how to assess the return on investment of AI projects and propose AI-based solutions.
- AI Business Applications: Students will learn how to apply AI-based solutions to address challenges in their field of study or work, such as finance, accounting, or customer support. Techniques will be covered for evaluating the performance and quality of those solutions in terms of return on investment.
- **Professional Communication:** Students will develop the ability to communicate AI concepts, findings, and ethical considerations effectively in a professional setting. Effective reporting strategies will be emphasized.

The certificate should provide a cohesive foundation for students seeking employment in fields using or affected by artificial intelligence.

7. Assessment and Admissions

Describe how the learning outcomes for the program will be assessed. Describe the process and criteria for how students will be admitted to and retained in the program.

Admission to the certificate will be restricted to students enrolled in a Terry College of Business undergraduate major. Students who are interested in pursuing the certificate should meet regularly with their academic advisor to determine an appropriate plan of study before submitting an enrollment request via Athena. Students in the certificate should meet regularly with their academic advisor regarding progress in the certificate.

Assessment of the Program Learning Outcomes will be performed using tests, reports, papers, and other graded assignments in each of the courses comprising the certificate. Collectively, the non-elective courses ensure that each program learning outcome is covered. Course outcomes for electives provide additional reinforcement, particularly for learning outcomes 2, 3, and 4. Review of the certificate will occur annually through the use of an exit survey taken by graduating students.

Documentation of Approval and Notification

Proposal: Undergraduate Certificate in Artificial Intelligence - Business

College: Terry College of Business

Department: Management Information Systems

Proposed Effective Term: Fall 2025

School/College:

- Terry College of Business Associate Dean, Dr. Henry Munneke, 3/14/2025
- Head of the Department of Management Information Systems, Dr. Gerald Kane, 3/14/2025

Use of course approvals are pending for the proposed program.