

# MIS 4397/7397

## Introduction to Artificial Intelligence

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**COURSE DESCRIPTION.** In this course, we will discuss the various concepts behind and surrounding AI in business. This course is constantly being updated to integrate the most effective available AI tools for business solutions. We will focus on a set of business problems and the currently available tools that help solve them. We will work hands on with most of these tools and develop an understanding of the technology behind them and the methodology behind applying them effectively and ethically.

The business problems that we explore will create a roadmap to establish a cohesive knowledge of the landscape of AI in business. This course is designed to introduce students to the implementation of AI in the business world and develop a basic understanding of the introductory concepts of AI. Most importantly, students will learn how to apply a few useful AI tools that will benefit their work. As part of this course, students will create their own AI solution to a business problem that they come up with using the tools discussed and/or practiced in this course.

**COURSE REQUIREMENTS.** All students are expected to have a basic understanding of statistics. Completion of Business Statistics (BUSI 2305) is mandatory for undergraduate students. There is no prerequisite for graduate students.

**Attendance is mandatory.** Three *unexcused* absence will be allowed. Each additional absence will result in a reduction of 20% from your participation grade. Absences can be excused with a **documented excuse consistent with University policy**. This course does not use a textbook and much of the material covered is exclusive to the course. Without good attendance, it is unlikely that you will pass the course.

**I do not accept late submissions of assignments for any reason.** If you have a valid excuse consistent with the University policy AND contact me **before the homework assignment is due** then extensions are possible.

<b>GRADING:</b>	<b>100-93: A</b>	<b>92.9-90: A-</b>	<b>89.9-87: B+</b>
	<b>86.9-83: B</b>	<b>82.9-80: B-</b>	<b>79.9-77: C+</b>
	<b>76.9-73: C</b>	<b>72.9-70: C-</b>	
	<b>69.9-67: D+</b>	<b>66.9-60: D</b>	<b>59.9-0: F</b>

The final grade will be based on participation (20%), in-class quizzes (10%), homework (25%), a final exam (10%), and a final project (35%).

**FINAL PROJECT.** Students will design an AI solution to a business problem in the following stages

**Business Problem Outline (Part 1):** Students propose a business problem that

they believe AI is suited to solve. The problem should be documented with motivating materials such as statistics or articles. The problem will be presented in a short slide deck (5 slides maximum for a 5-minute presentation)

**AI Solution Proposal (Part 2):** Students will design an AI solution to their chosen business problem. Students will create a white paper that outlines the business problem, the AI solution, the solution's expected effect, and detailed instructions on how to execute the solution. The solution and paper will be targeted to a leadership audience rather than user-level material. (**Format requirements for full credit:** 4 FULL pages 1.5-spaced Arial Font 12 pt. with space between paragraphs disabled, 1-inch margins and no header)

**Presentation (Part 3):** Students will create a 15-minute pitch presentation of their AI solution. The presentation will outline the business problem and AI solution benefits with examples of the implementation.

### **LEARNING OBJECTIVES.**

- Students will be able to distinguish between what is AI and what is not
- Students will be able to distinguish different applications of AI based on datasets
- Students will be able to understand how to handle each type of dataset using a specifically suited AI tool
- Students will examine different stages of AI projects and execute them following industry standards
- Students will examine the immediate impacts of current AI practices on society
- Students will examine ethical concerns surrounding AI
- Students will be able to identify potential risk and consequences of data breaches and privacy violations resulting from unsafe AI use
- Students will be able to define Explainable AI and identify different methods to build it
- Students will be able to identify productivity challenges and explore various AI tools to effectively address them and enhance productivity
- Students will be able to propose a business problem, design an AI solution, and present the packaged business proposal as a white paper and presentation
- Students will be able to generate novel AI-powered business ideas in a structured and consistent manner
- Students will be able to create a value proposition canvas for an AI-powered business

**DISCRIMINATION AND MISCONDUCT.** The University of Houston prohibits sexual or gender-based harassment, discrimination, and misconduct. This includes sexual assault, sexual harassment, relationship violence, and stalking. If you or someone you know has experienced sexual harassment, you may contact the Title IX Office (<https://uh.edu/equal-opportunity/title-ix-sexual-misconduct/>) for more information about resources and options. Faculty members are required to share reports of sexual harassment with the Title IX Office. This requirement helps the College address the health and safety needs of our community. When a report is made to the Title IX Office, you are in control of what happens next. If you choose to share your experience, your disclosure will be taken seriously, and you will be treated with dignity.

**WRITING CENTER.** For writing assistance please feel free to reach out to the writing center (<https://uh.edu/writing-center/>). The University of Houston Writing Center provides services to students, faculty, and staff in order to support effective writing practices across

campus. We believe that writing is an essential component of a university education and an indispensable element of every discipline. Ongoing instruction in writing helps to initiate students into the changing intellectual demands of university life and introduces them to the complexities of their chosen disciplines and professions. Because writing provides the tools to discover and articulate solutions to intellectual problems, improved writing remains a continual goal of a university education. Our goal is to increase students effectiveness in writing through our support of individual writers, faculty instruction, staff programs, and the university-wide community of writers. To that end, the Writing Center meets individually with student writers, leads developmental writing classes, partners with faculty to support Writing in the Disciplines classes, meets with faculty to design curriculum and assessments, conducts presentations and workshops for students and faculty, and partners with members of the UH community to develop and support effective writing practices across campus.

**ACCOMODATIONS/ACCESSABILITY.** The University of Houston is committed to providing access to the educational experience to students with disabilities and health conditions that impact learning. If you have received a letter that outlines the academic accommodations to which you are entitled and those accommodations apply to this course, you **MUST** meet with me to review that letter, get my signature on the acknowledgment form, and discuss how your learning needs intersect with the course expectations. If you suspect that you have a learning need that could benefit from academic accommodations, you should contact the Office of Accessibility Services, who can help you learn more about how to proceed in this instance as well.

**ACADEMIC INTEGRITY.** The University of Houston is committed to the ideals of honesty, personal integrity, and mutual trust. Academic integrity is the responsibility of all students, members of the faculty, and administrative officers. All students are expected to uphold the highest ideals of academic integrity throughout their career at UH. Students must clearly cite any sources consulted—not only for quoted phrases but also for ideas and information that are not common knowledge. Likewise, materials may not be directly copied from classmates (those currently in the course or those that have taken it previously) unless explicitly specified by the instructor. Neither ignorance nor carelessness is an acceptable defense in cases of plagiarism. It is the student's responsibility to follow the appropriate format for citations. (For further information on the punishments associated with each instance of misconduct, see the information provided here: <https://www.uh.edu/provost/students/student-policies/honesty/index>)

The first violation of academic integrity will result in a 0 on the related assignment.

The second violation of academic integrity will result in a 0 in the related course.

# **CURRICULUM**

## **CORE DATA PROBLEMS**

Unstructured Data, The AI Revolution, Unlocking Human-AI Interactions

## **AI FOR LABOR MOBILITY**

GenAI for Productivity, Matching, Resume Building, AI Ethics, Self-Training

## **AI FOR CUSTOMER SATISFACTION**

AI Product Testing (Focus Group), Customer Support Chatbot Basics, Listening to  
Prospective Customers

## **AI AND ENTREPRENEURSHIP**

Generating AI Business Ideas, Testing Minimum Viable Product, Building Business Models,  
Pitching Your AI-Powered Venture

## **AI FOR STRATEGIC ADVANTAGE**

Key Metrics of AI Project Management, AI Project Proposal, GenAI for Research &  
Development, Societal Impact of AI, AI Arms Race