ARTIFICIAL INTELLIGENCE (AI)

AI 4100 - Fairness in Artificial Intelligence and Machine Learning
1 Credit
As humans have come to rely on artificial intelligence to make decisions traditionally performed by bureaucrats and institutions, it is necessary to understand the ways in which various forms of marginalization and inequality may come to be embedded in these systems. This course is an introduction to the ways in which the training data and inferences of machine learning may be unfair relative to a number of different conceptions of fairness at the mathematical, legal, and philosophical levels.

AI 4110 - Liability and Accountability in Autonomous Systems
1 Credit
From autonomous driving to agentic AI, people are increasingly giving up their direct involvement in important decisions and practices by allowing computers to take the wheel both literally and metaphorically. This course is designed to help student understand the problems of moral responsibility and legal liability for decisions made without human oversight or human comprehension.

AI 4200 - Data for AI and ML
3 Credits
This course introduces practical skills for preparing and managing real-world data that underpins modern AI and machine learning systems. Students will learn how to discover, access, assess, clean, integrate, and document diverse data sources so they can be used to train reliable, effective, and fair models in real application settings such as health, business, the environment, and the social sciences.

AI 4300 - Image Analysis
3 Credits
This course introduces students from any discipline to how modern AI systems analyze and interpret images. Building on a prior high-level AI course, students will work with real image data and pre-trained models to perform tasks such as image classification (what is in an image?), detection (where is it?), segmentation (which pixels belong to it?), and similarity search (what looks like this?).

AI 4400 - Large Language Models
3 Credits
This course introduces students from any discipline to how modern AI systems process, analyze, and generate human language. Building on a prior high-level AI course, students will work with real text data and pre-trained language models to perform tasks such as text classification (what is this about?), sentiment analysis (how does it feel?), topic modeling (what themes are present?), information extraction (who did what to whom?), and retrieval/generation (what should I say in response?).

AI 5000 - Introduction to Artificial Intelligence and Machine Learning
3 Credits
This course provides a high-level, practical, and interdisciplinary introduction to modern artificial intelligence and machine learning, specifically designed for students outside of computer science. Students will learn how to use large language models (LLMs) and Python notebooks to explore and build basic AI/ML systems, while gaining fluency in AI-assisted programming and reasoning. The course explores key distinctions between AI and ML, contrasts traditional and current AI paradigms, and highlights real-world applications and limitations across fields. Students will examine both technical capabilities and societal implications of AI through examples in healthcare, business, and the social sciences.

AI 5100 - Fairness in Artificial Intelligence and Machine Learning
1 Credit
As humans have come to rely on artificial intelligence to make decisions traditionally performed by bureaucrats and institutions, it is necessary to understand the ways in which various forms of marginalization and inequality may come to be embedded in these systems. This course is an introduction to the ways in which the training data and inferences of machine learning may be unfair relative to a number of different conceptions of fairness at the mathematical, legal, and philosophical levels.

AI 5110 - Liability and Accountability in Autonomous Systems
1 Credit
From autonomous driving to agentic AI, people are increasingly giving up their direct involvement in important decisions and practices by allowing computers to take the wheel both literally and metaphorically. This course is designed to help student understand the problems of moral responsibility and legal liability for decisions made without human oversight or human comprehension.

AI 5200 - Data for AI and ML
3 Credits
This course introduces practical skills for preparing and managing real-world data that underpins modern AI and machine learning systems. Students will learn how to discover, access, assess, clean, integrate, and document diverse data sources so they can be used to train reliable, effective, and fair models in real application settings such as health, business, the environment, and the social sciences.

AI 5300 - Image Analysis
3 Credits
This course introduces students from any discipline to how modern AI systems analyze and interpret images. Building on a prior high-level AI course, students will work with real image data and pre-trained models to perform tasks such as image classification (what is in an image?), detection (where is it?), segmentation (which pixels belong to it?), and similarity search (what looks like this?).

AI 5400 - Large Language Models
3 Credits
This course introduces students from any discipline to how modern AI systems process, analyze, and generate human language. Building on a prior high-level AI course, students will work with real text data and pre-trained language models to perform tasks such as text classification (what is this about?), sentiment analysis (how does it feel?), topic modeling (what themes are present?), information extraction (who did what to whom?), and retrieval/generation (what should I say in response?).

AI 5930 - Special Topics
1-3 Credits (Repeatable for credit)

AI 5980 - Graduate Independent Study in Artificial Intelligence
1-3 Credits (Repeatable up to 9 credits)
Attributes: AI Electives