

# ARTIFICIAL INTELLIGENCE (AI)

## AI 120: Intro to AI (4)

This course will introduce students to various forms of artificial intelligence (AI) and how people interact with AI in applications automation, machine learning (ML), deep learning, computer vision (CV), and robotics. Students will learn about how AI provides analytics in business and consider industries that may be disrupted by AI implementations. Students will create ML models and obtain test and validation data. Ethical factors related to AI deployments will also be considered. 4 lecture hrs/wk

**Registration-Enforced Corequisite:** CIS 120 or instructor approval.

**Terms Typically Offered:** Fall

## AI 210: Machine Learning (3)

This course focuses on machine learning (ML), including how to use data to make complex business decisions and make accurate predictions of outcomes. Several algorithms will be introduced using Python in Jupyter Notebook or using online tools such as Google Colab. Topics covered include no code and coded ML, deep learning, supervised/unsupervised/reinforcement learning, and neural networks.

**Corequisite:** CIS 276 or instructor approval.

**Registration-Enforced Prerequisite:** CIS 122, CIS 133, CIS 233, MTH 261, STAT 243Z.

**Terms Typically Offered:** 3 lecture,

## AI 220: Natural Language Processing (4)

This course will provide students with the confidence and training they need in natural language processing (NLP), including skills necessary to teach computers to use language by extracting knowledge from text and then to use that knowledge in meaningful ways. Students will learn how to acquire, preprocess, and store data and how to pipeline data. They will also learn about classification models, neural networks and deep learning related to NLP, and language modeling. 3 lecture, 2 lab hrs/wk

**Registration-Enforced Prerequisite:** AI 210 or instructor approval.

**Terms Typically Offered:** Winter

## AI 230: Computer Vision (4)

This course provides an overview of computer vision (CV), which is the ability to use computer-driven cameras to see through multiple lenses. Students will use depth sensors for 3D depth mapping and add sophisticated sensors to provide orientation, location, and lighting. Students will learn the basics of CV and its fundamental platforms (hardware and software), including the latest information about cameras and how specific software, sensors, and machine learning processes aid in the development of understanding the content of images. 3 lecture, 2 lab hrs/wk

**Registration-Enforced Prerequisite:** AI 210 or instructor approval.

**Terms Typically Offered:** Winter

## AI 240: AI Data Science (4)

This course focuses on the data science aspect of deep learning and prepares students to make good business decisions based on available data. Students will learn to collect, analyze, and manipulate data through code to allow a business to more effectively develop insights from their work and leverage that insight to address business issues or open new business opportunities. 3 lecture, 2 lab hrs/wk

**Registration-Enforced Prerequisite:** AI 210, AI 220, AI 230, CIS 125S, CIS 233, CIS 276 or instructor approval.

**Terms Typically Offered:** Spring

## AI 280: CWE - AI (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. 1 credit = 33 hours of lab

**Registration-Enforced Prerequisite:** Instructor approval.

**Terms Typically Offered:** Fall, Winter, Spring, Summer