CSAI - Computer Science Artificial Intelligence | Undergrad

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Global Citizenship Program Knowledge Areas
(bolded code)

- **ARTS**: Arts Appreciation
- **GLBL**: Global Understanding
- **PNW**: Physical & Natural World
- **QL**: Quantitative Literacy
- **ROC**: Roots of Cultures
- **SSHB**: Social Systems & Human Behavior

Global Citizenship Program Skill Areas
(not bolded code)

- CRI: Critical Thinking
- ETH: Ethical Reasoning
- INTC: Intercultural Competence
- OCOM: Oral Communication
- WCOM: Written Communication
- ** Course fulfills two skill areas

Course Descriptions

CSAI 3210 Introduction to Artificial Intelligence (3)

A background on Artificial Intelligence will be provided, and the potential benefits of the technology in multiple areas will be described. Ways in which Artificial Intelligence-related questions can be resolved will be covered. Topics will include machine learning, probabilistic reasoning and natural language processing. **Prerequisite**: COSC 1560, MATH 2200.

CSAI 3220 Foundations of Machine Learning (3)

The basic theory underlying machine learning will be provided, and clarification of how to formulate machine learning processes for different applications. A range of machine learning algorithms will be explained along with their strengths and weaknesses. **Prerequisite**: CSAI 3210.

CSAI 4210 Machine Learning Methods (3)

How to apply machine learning algorithms to solve problems will be provided. Algorithms will be applied to real-world problems, optimizing the models learned and reporting on the expected accuracy that can be achieved by applying the models. **Prerequisite**: CSAI 3220.

CSAI 4220 Neural Networks (3)

This course introduces the basic models, learning algorithms, and some applications of neural networks. Topics are covered to clarify how to use neural networks for solving different problems related to pattern recognition, function approximation and data visualization. **Prerequisite**: CSAI 4210.

CSAI 4230 Deep Learning (3)

Deep learning is a powerful machine learning model. Modern deep learning is highly successful in applying complex neural networks to problems from a wide range of disciplines. This course gives and understanding of the theoretical basis underlying neural networks and deep learning, and provides an understanding of the implementation of deep learning packages. **Prerequisite**: CSAI 4220.