

# ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING (AIML)

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## **AIML 1101 AI Fundamentals: Impacts, Ethics, and Applications (3 credits)**

This course introduces the fundamentals of Artificial Intelligence (AI) with an emphasis on its use, societal impact, and ethical considerations. Students will explore major AI subfields, learn how modern systems such as large language models (LLMs) function conceptually, and examine their capabilities and limitations. Through case studies, discussions, and hands-on activities, the course addresses issues of bias, privacy, and accountability, as well as philosophical questions surrounding consciousness and agency. Students will develop skills in prompt engineering, critically evaluate AI-generated content, and apply ethical and legal guidelines for responsible AI use. This course fosters AI literacy and prepares students to engage thoughtfully with emerging technologies. Typically Offered: Fall.

## **AIML 2001 Introduction to Machine Learning (3 credits)**

This course introduces current approaches and techniques in machine learning using Python using an experiential learning approach. Students will learn the fundamental concepts and techniques of machine learning and their Python-based implementations. Students will gain the ability to design, implement, and evaluate Python-based machine learning solutions for problems such as data classification and clustering. Typically Offered: Fall.

**Prereqs:** AIML 1101 and CS 2120 or MATH 1830

## **AIML 4010 (s) Contemporary Issues in AI (1 credit)**

Ethical, legal, social, and intellectual property issues relating to AI; current research topics; and other issues of importance to the AI professional. Graded Pass/Fail. Typically Offered: Fall and Spring.

**Prereqs:** Senior standing

## **AIML 4800 AI Senior Capstone Design I (3 credits)**

Capstone design sequence for AI majors. Formal development techniques applied to definition, design, coding, testing, and documentation of a comprehensive AI project. Projects are customer-specified, include real-world design constraints, and encompass two semesters. Students work in teams. Significant lab work required. Typically Offered: Fall.

**Prereqs:** CS 4771 or CS 4622, ENGL 3170 or ENGL 2020, Senior Standing

## **AIML 4810 AI Senior Capstone Design II (3 credits)**

General Education: Capstone Experience

The second semester of the capstone design sequence for AI majors. Formal development techniques applied to definition, design, coding, testing, and documentation of a comprehensive AI project. Projects are customer-specified, include real-world design constraints, and encompass two semesters. Students work in teams. Significant lab work required. Typically Offered: Spring.

**Prereqs:** AIML 4800