THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Foundations of Applied Artificial Intelligence for Non-Majors

CSE 6520

Credit Hours:
3.00 - 3.00

Course Levels:
Graduate (5000-8000 level)

Course Components:
Lecture

Course Description:
Introduction to computer programming, to problem solving techniques using computer programs, and to the mathematical foundations of Artificial Intelligence. Specifically geared towards graduate students from non-Computer Science backgrounds with examples drawn from Artificial Intelligence.

Course Goals / Objectives:
- Be competent with the usage of basic components of a high-level programming language (e.g. variables, types, flow control, functions)
- Be competent with the usage of common data structures of a high-level programming language (e.g. lists, tuples, maps)
- Be competent with the usage of libraries in a high-level programming language
- Be familiar with some basic linear algebra concepts (e.g. PCA, eigenvalues, eigenvectors) and how to use them in a high-level programming language
- Be familiar with fitting statistical models to data in a high-level programming language
- Be familiar with basic plotting techniques in a high-level programming language
- Be exposed to basic neural networks and their usage in a high-level programming language
- Be exposed to basic data analytic experimental techniques and standards

Course Topics:
- Basic concepts
- Data structure basics
- Arrays of multiple dimensions
- Dataframes and Basic Plots
- Linear Algebra Basics
- Regression
- Probabilistic modelling
- Neural Network Basics
- Project Discussion/Midterm

Designation:
Elective