



**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

# Survey of Artificial Intelligence I: Basic Techniques

## CSE 3521

**Credit Hours:**

3.00

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**Course Levels:**

Undergraduate (1000-5000 level)

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**Course Components:**

Lecture

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**Course Description:**

Survey of basic concepts and techniques in artificial intelligence, including problem solving, knowledge representation, and machine learning.

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**Prerequisites and Co-requisites:**

Prereq: 2331 or 5331; and Math 2174 or 2568 or 4568 or 5520H; and Stat 3201 or 3450 or 3460 or 3470 or 4201 or Math 4530 or 5530H; and enrollment in CSE, CIS, ECE or Data Analytics major.

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**Course Goals / Objectives:**

- Master basic search techniques for problem-solving, including systematic blind search, heuristically-guided search, and optimal search
  - Be competent with game tree search methods and the requirements for expert-level game play
  - Be familiar with using logic and proof as a basis for knowledge representation and automated reasoning
  - Be familiar with multiple knowledge-representation formalisms
  - Be exposed to problems in common sense reasoning and language understanding
  - Be exposed to integrated AI architectures as a platform for building AI systems
  - Be exposed to machine learning techniques and the kinds of problem they solve
  - Be exposed to state-of-the-art AI applications related to robotics, machine vision, speech recognition, and computer games
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**Course Topics:**

- Basic representation and problem solving methods
  - Search techniques and game playing
  - Knowledge representation using logic, automated proof techniques
  - Machine learning, probabilistic inference
  - Planning and common sense reasoning
  - Perception and communication
  - Applications
  - AI & Games
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**Designation:**

Elective