

CSC 425 Artificial Intelligence

CATALOG DESCRIPTION:

Concepts and techniques of artificial intelligence; heuristic search, expert systems, AI languages, natural language processing, and elementary neural networks. PREREQ: C or better in CSC 364.

LAST TAUGHT: Spring 2009 (Fox)

SCHEDULED LAB USAGE:

None.

STUDENT BACKGROUND EXPECTATIONS:

Understanding of data structures and recursion, ability to program in a high level language.

CORE TOPICS COVERED:

- Philosophical background into artificial intelligence
- Knowledge representations
- Search algorithms
- Uncertainty handling
- Planning, understanding, diagnosis as problems
- Expert systems
- Natural language processing
- Symbolic learning algorithms
- Connectionist learning algorithms
- Genetic and evolutionary algorithms

MOST RECENT TEXTBOOK USED:

Artificial Intelligence: Structures and Strategies for Complex Problem Solving, sixth edition, George F. Luger.

SOFTWARE REQUIRED:

Students will need access to a programming language such as Java or C++. Students may also be required to download a public domain language or tool like Clips or Jess.

STUDENT WORK:

Homework assignments, programming assignments, and a final exam

LEARNER OUTCOMES:

By the end of this course, students will learn to:

- understand the basic forms of knowledge representations
- understand search strategies
- understand algorithms related to planning, understanding
- understand the problems of machine learning and the common approaches
- be able to write code to solve selected AI problems

CROSS-LISTINGS:

None