Course Number: 3460:460/560
Course Name: Artificial Intelligence and Heuristic Programming
Course Credits: 3.0
Schedule: Spring
Syllabus Date: Spring, 2004
Prepared By: C.-C. Chan

Prerequisites: 3460:316 with a grade C- or better


Bulletin Description:
Study of various programs which have displayed some intelligent behavior. Exploration of level at which computers can display intelligence.

Detailed Description:

Course Goals:
1. Study basic ideas in AI and methods for knowledge representation, manipulation, organization, and acquisition.
2. Study rule-based, knowledge-based, and machine learning systems and their applications.

Topics:
1. Overview of AI, history, application areas, definition and concerns of AI, examples of AI programs.
2. Introduction to knowledge-based systems, knowledge representation, manipulation, organization, and acquisition
3. Structures and strategies for state space search
4. Lisp
5. Heuristic search
6. Strong Method problem solving
7. Reasoning with uncertain or incomplete information
8. Logic-based knowledge representation
9. Machine Learning Symbol-Based
10. Machine Learning: Connectionist
11. Machine Learning: Genetic algorithms

Computer Usage:
There will be three programming projects in Common Lisp, C/C++ and other high-level programming languages available on Linux.

References: