

**CSC 7444 - ADVANCED ARTIFICIAL INTELLIGENCE
FALL 2008**

**Tuesday, Thursday 1:40pm to 3:00pm
129 Tureaud Hall**

class website: <http://csc.lsu.edu/~jianhua/csc7444.html>

Instructor:

Dr. Jianhua Chen

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office hours: T, TH 3:30pm to 5pm, and Wednesday 1:30pm to 3:00pm

Text:

Artificial Intelligence - A Modern Approach by S. Russell and P. Norvig, 2nd Edition, Prentice Hall, 2003.

Web page of the text book:

<http://aima.cs.berkeley.edu/>

Artificial Intelligence (AI) is an important research area which has attracted researchers from multiple disciplines including Computer Science, Cognitive Science, Electrical Engineering, Information Science, Philosophy and Linguistics. Research in AI aims at understanding the nature of intelligence and building intelligent agents which are computational systems that behave intelligently. Artificial Intelligence research has found many successful real life applications in engineering, science, health care, finance, education, and service sector.

The goal of this course is to introduce the students to the fundamentals and advanced topics of Artificial Intelligence. The coverage will be balanced between theory and applications. In addition to the text book, important papers from recent conference proceedings and journals may be covered. General background in analytical thinking and basic knowledge of knowledge-based systems are required to take the course. Previous course work in AI is a plus, but NOT a must - given that we have not offered the introductory AI course for a long time.

Main Topics:

1. Introduction to AI (Chapters 1-2).
2. Problem Solving by search, and game playing (Chapters 3-4, 6).
3. Knowledge Representation and Reasoning (Chapters 7-8, and possibly 10).
4. Inductive Learning (Chapter 18, and possibly 20).
5. Natural Language Processing (Chapters 22-23).

Form of the Course:

Mainly lectures by the instructor, but we will also arrange student group presentations reporting group projects done during the semester. So the students should try to form groups early in the semester for the group project activity. In addition, each student will be required to do an individual final term-paper presentation.

Grading:

Class attendance and participation	10%
Mid-term Exam (Close-book)	35%
Group project activity and presentation	30%
Written Term paper	15%
Term paper presentation	10%

Important dates:

Thursday October 23, 2008	Mid-term exam
Monday December 8, 2008 (3-5:00pm)	Final term paper presentation
Saturday December 13, 2008 by 5pm	Written final term paper due

Grading scales:

A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: below 60.

Academic Honesty Requirements

Except for group project/presentations, the mid-term exam, the individual term paper (written and oral presentation) are all individual assignments that must be done **independently** by each student. In accordance with the LSU policy regarding academic honesty, any act of cheating will be prosecuted vigorously.

For group project, we encourage the members of the same group to share ideas, and to collaborate on the project and the presentation.

References:

1. AAI Conference Proceedings.
2. IJCAI Conference Proceedings.
3. The Artificial Intelligence Journal.
4. Journal of Man, Machine and Cybernetics.
5. Journal of Artificial Intelligence Research.
6. Proceedings of International Conference on Machine Learning.
7. Proceedings of International Conference on Knowledge Discovery and Data Mining.