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, social media and entertainment.

The goal of this course is to introduce the students to the fundamentals of Artificial Intelligence. Through the course the students should get a general knowledge of the AI subject; develop a deeper understanding of several major topics of AI, and develop the design/programming skills for building intelligent agents. The coverage will be balanced between theory and applications.

Main Topics:
1. Introduction to AI (Chapters 1-2).
2. Problem Solving by search, and game playing (Chapters 3-5, and possibly 6)
3. Knowledge Representation and Reasoning (Chapters 7-8).
4. Uncertain Knowledge and Reasoning (Chapter 13, 14)
5. Machine Learning (Chapter 18, and possibly 21).
6. Natural Language Processing (Chapter 22).

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.
Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homeworks (including small programs)</td>
<td>20%</td>
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<tr>
<td>Mid-term Exam (Close-book)</td>
<td>25%</td>
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<tr>
<td>Final Exam (Close-book)</td>
<td>30%</td>
</tr>
<tr>
<td>Group project activity and presentation</td>
<td>25%</td>
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</tbody>
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Grading scales:
A: 85-100; B: 75-84; C: 65-74; D: 55-64; F: below 55.

Academic Honesty Requirements
Except for group project/presentations, the exams and homeworks 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.

Late homeworks/programs are accepted if the submission is no later than 3 days after the due date (holidays and weekends count). A 10 points penalty will be deducted for each day of lateness.

Programming Platform:
The homework assignments may include some programming questions. The programming platform will be the classes server running Linux. You would need to remote logon to the server (classes.csc.lsu.edu) by ssh connection. To submit your program (say program 1 associated with homework1), you should first create a directory called "prog1" under your cs4444** account, and put all your program files for homework1 in that directory. Then at the root directory of your cs4444** account, type the command ".../cs4444_chj/bin/p_copy1" to submit all the files in your "prog1" directory to the TA account.

Programming languages:
We are quite flexible as to the choice of languages for you to write programs for CSC4444: you can use C/C++, Java, Lisp, Python. In particular the textbook website contains some source codes with Java/Python/Lisp. You can certainly incorporate these existing sources to your program. However you should document your code clearly to indicate which part is YOUR addition/modification and which part is from the online source.

Program documentation requirements:
Programs must be clearly documented. A "readme" file should be submitted for each submission associated with any homework. The "readme" file should clearly specify the inputs/outputs of your program. It should specify the appropriate command (and input parameters if relevant) to compile (or execute) your program.