

# CS 3793 Syllabus – Fall 2011

## Introduction to Artificial Intelligence

According to the Undergraduate Catalog, this course discusses theorem proving by machine, computational linguistics, psychological modeling, and computer games. We will also cover heuristic search, machine learning, and planning. 3 hours credit. Prerequisite: CS 3343/3341 (Analysis of Algorithms). The objectives of this course are to give you an understanding of artificial intelligence (AI) and how it is realized by computer programs.

### Instructor

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Office Hours: Tuesday 1-2pm, Thursday 2-3pm, Friday 9-10am, or by appointment.

### Book

Required: S. Russell and P. Norvig, *Artificial Intelligence: A Modern Approach*, Third Edition, Prentice Hall, 2010.

### Grading

Homework 10%, Programming 40%, 2 Midterms 30%, Final Exam 20%.

### Homework and Labs

Short homeworks will be assigned regularly and will be normally be due within one week. They are intended to be easy to solve after you have attended the lecture and read the assignment. You will fulfill the 10% homework portion of your grade if you average 50% over all the homework problems. Late homeworks will be accepted only for reasonable excuses.

There will be 4 lab assignments involve writing “agents” that interact with “environments”. An intelligent agent is defined circularly as a program that behaves intelligently in its environment. The interaction is simulated by a process for the agent and a process for the environment that are set up to communicate to each other using standard input and standard output. Programming in C is preferable; check with me about other programming languages. However, any code I provide as part of the lab assignments will be in C. Late lab assignments will be accepted with 50% off.

All assignments will be handed in electronically by using Blackboard (<http://bb.utsa.edu>).

## Attendance and Participation

Regular class attendance per se is not required, but you should note that the homeworks, labs, and exams will be partly based on the lectures. You should also note that homework will be regularly assigned and discussed. Make-up exams are permitted as long as it's a reasonable excuse, you inform me in a timely fashion, and you document the excuse.

## Tentative Schedule

Day	Topic	Assignment
Aug. 24ff	Introduction, Agents	§1.1, §2.1-2.3, Lab 0
Aug. 29ff	Search	§3, §4.1
Sept. 9		Lab 0 Due, Lab 1
14ff	Game Playing	§5.1-5.3
21		<b>Midterm 1</b>
26ff	Logical Reasoning	§7.1-7.5, Prover9 Handout
30		Lab 1 Due, Lab 2
Oct. 5ff	First-Order Logic	§8.1-8.3
17ff	Inference	§9.1-2, §9.5, §8.4
21		Lab 2 Due, Lab 3
26	<b>Midterm 2</b>	
31ff	Planning	§10.1-10.2
Nov. 7ff	Probabilistic Reasoning	§13, §14.1-14.2, §14.4
11		Lab 3 Due, Lab 4
14ff	Learning	§18, §20.1-2
28ff	Natural Language	§22, §23
Dec. 5ff	Vision	§24.1-24.4(stereopsis)
7		Lab 4 due
Dec. 16	<b>Final Exam: Friday, 1:30pm to 4:00pm</b>	

## Scholastic Dishonesty

The integrity of a university degree depends on the integrity of the work done for that degree by each student. The University expects a student to maintain a high standard of individual honor in his/her scholastic work.

In this course, collaboration is permitted on homework and the laboratories, but direct copying is **not** allowed. In particular, copying other students' homework or code with minor modifications will be regarded as a serious case of cheating. You must write your own answers and your own code.

Further information on UTSA's policies regarding academic dishonesty can be found in UTSA's Student Code of Conduct, Section 203.