# CIS 563: Multi-Agent Software Systems, Spring 2005

Mon. and Wed., 3:30 - 4:45 pm, Dion 101
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Office hours: Mon. 1:00-3:00; Wed. 1:00-2:00; Fri. 1:00-2:00; and by appointment

## 1. Course Homepage

http://www.cis.umassd.edu/~hxu/courses/cis563/s05/

## 2. Textbook

Michael Wooldridge, *An Introduction to MultiAgent Systems*, John Wiley and Sons, March 2002. ISBN: 0-471-49691-X.

## 3. Prerequisites

CIS 412 (Artificial Intelligence), or equivalent.

## 4. Course Objectives

By the end of this course, students will know the new ideas and opportunities provided by intelligent agents and multi-agent systems. Students will understand how to use multi-agent systems to solve real-world problems with consideration of distributed tasks, resource sharing, coordination and cooperation among individual computational entities. Students will be conscious of the theory foundation and the state of the art of multi-agent systems, and be capable to practice the technologies of intelligent agent in the applications of internet information gathering, electronic commerce and virtual markets, workflow management, distributed sensing network , distributed planning and resource allocation, etc.

## 5. Catalog Description

This course is an introduction to the fields of multi-agent systems and distributed artificial intelligence. This course deals with the issues that arise when groups or societies of autonomous agents interact to solve interrelated problems. The topics include: what are intelligent agents and multi-agent systems, their characteristics, reasoning about agents' knowledge and beliefs, multi-agent interactions, distributed problem solving and planning, coordination and negotiation, the organization and control of complex, and applications in the following domains: internet information gathering, electronic commerce and virtual markets, workflow management, distributed sensing network, distributed planning and resource allocation, etc.

## 6. Important Dates and Grading

The *tentative* examination schedule is as follows:

- Midterm exam: Mon., Mar. 21 (in class)
- Final exam: take home exam.

Your numerical scores will be based upon the following contributions:

- 20% Midterm exam
- 20% Class presentation

- 20% Final exam
- 40% Homework and projects

The letter grades will be assigned using the following *approximate* scale: (A+,A,A-)[100-90], (B+, B, B-)[90-80], (C+,C,C-)[80-70], (D+,D,D-)[70-60], and F[60-0]. Academic dishonesty will be "rewarded" a grade of "F". "Sharing" of solutions to homework problems is strictly prohibited.

## 7. Course Requirements

Due to the nature of the course and the frequency of assignments, **attendance is mandatory**. You are responsible for all announcements and for all material presented in the lecture sessions. **Come prepared for class** and read the assigned material in advance of lectures. After the lecture, re-read the material.

Each assignment will have a deadline (date and hour). Late assignments will not be considered unless *explicitly* specified in class.

There will be no make-up midterm and final exams. If you have a conflict with the midterm or final exam, contact the instructor in advance, so that your situation can be evaluated and a solution can be found. Of course, only serious conflicts will be considered.

Any requests for re-grading your assignments or exams must be submitted in *writing*, along with the assignment or exam within one week from the day it was returned. Your request must detail what you think was incorrect about the grading and must be submitted during regular office hours or immediately after a class.

## 8. Academic Honesty

You are encouraged to discuss assigned problems with other people, but you must individually design and write your own solutions for all assignments, unless group work is *explicitly* allowed. If you do work on the assigned problems with some one, you must list the name of the people you discussed it with on the report you turn in. If you look at any web sites to help you with the assignments, you must list the URLs of each page you looked at.

Using work or ideas without citation is *plagiarism*. The penalty for plagiarism will range from an "F" in the course to expulsion from the university.

## 9. Disability Statement

If you have a disability and feel you will need accommodation in order to complete course requirements, please contact Office of Disabled Student Services, Group I, Lower Level.