

## Intelligent Autonomous Agents ICS 606 / EE 606 Fall 2011

### Administrative Information

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## Course Overview

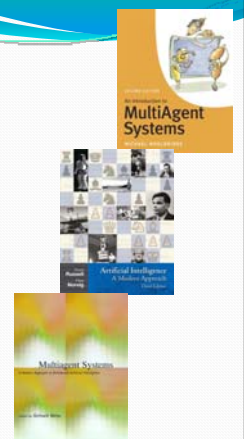
- Course Homepage:  
<http://www2.hawaii.edu/~nreed/ics606/index.html>
- Prerequisites
- Textbook
- Course Requirements

## Prerequisite Knowledge

- Interest in designing and/or building intelligent programs
- Interest in learning about and/or creating systems with autonomous behavior
- Programming experience in a high-level language equivalent to ICS 313 (Lisp) or EE 467 is helpful, but not required

## Textbooks

- **An Introduction to MultiAgent Systems**, M. Wooldridge, John Wiley, 2009 **Second edition**
- **Artificial Intelligence, A Modern Approach**, S. Russell & P. Norvig, Prentice Hall, 2009 **Third edition**
- **Multiagent Systems**, G. Weiss, 1999, MIT press.



## Additional Reading Material

- AI and Agents, State of the Art, Eduardo Alonso, AI Magazine, Vol. 23, No. 3, Fall 2002, pp. 25-30. (handout)
- Is it an Agent or a Program? (Franklin & Graesser) (link online)
- Intelligent Agents (Ch. 2 of Russell & Norvig, 1<sup>st</sup> Edition) (online)
- **Research articles – most in the UH library and/or online**
- Conference proceedings: AAMAS, ACM, AAAI, IJCAI, ECAI, IEEE
- Journals: Artificial Intelligence Journal (Elsevier), Autonomous Agents and Multi-Agent Systems (Springer), Web Intelligence and Agent Systems (IOS), IEEE Intelligent Systems
- International Journal of Agent-Oriented Software Engineering (Inderscience), International Journal of Agent Technologies and Systems (IGI)

## Course Organization

- M/W in Hamilton 003G
- Lecture and discussion format
- Discussions centered on weekly reading material
- Research paper presentations
- Research project
  - Final report due on Wednesday of finals week
  - Final presentations during the last few weeks of class

## Course Requirements

- Project – literature survey or agent program/test, 50%
- Exam – one written midterm, 30%
- Class participation and paper presentations, 20%
- Extra credit options including programming agent systems

## Project Information

- Select an application area of interest
- Choose a literature survey or a programming project
- Work with software (softbots) or hardware (robots)
- Define research question(s) to address
- Write a project proposal - due 3<sup>rd</sup> week
- Produce a list of references relevant to your topic – due 5<sup>th</sup> week
- Pick at least 2 papers on your list to present
- Project progress report - due 11<sup>th</sup> week
- Final written report due final week
- Micro, Mini, and Final project presentation to entire class
- You may work in groups
- You may use any programming language you wish
- <http://www2.hawaii.edu/~nreed/ics606/projects.html>

## Exam Information

- There will be one midterm exam on Wed. of Week 10
- Covers material from
  - Textbook
  - Lectures
  - Readings and papers presented in class

## Class Discussions on Research

- Discussion of material is crucial to understanding research – both how to conduct research and how to evaluate research
- Student presentation (papers relevant to projects) guidelines
- **Presenter:**
  - Give a copy of the paper to the instructor 1 week before the presentation
  - Just before the presentation (or earlier)- distribute a list of questions to the class
  - Professional presentation of main points of paper (25 minutes)
  - Discuss strengths and weaknesses of the paper/approach
  - Aid in discussing the paper and the questions you raised
- **Audience:** formulate comments/questions about all papers/reading material
- If absence from class is necessary, written reports may be required

## Course Homepage

- <http://www2.hawaii.edu/~nreed/ics606/index.html>
- Messages
- Schedule
- Grading criteria
- Exam
- Project information
- Resource links