

CSCI-4550/6550: Introduction to Artificial Intelligence

(Fall, 2014: 12:30pm TuTh, Boyd GSRC 306)

Description (Theme: Search, Knowledge Representation, Intelligent Behavior)

An examination of the artificial intelligence approach to modeling cognitive processes. Includes an introduction to heuristic methods, problem representation and search methods, classic AI techniques, and a review of the controversial issues of the AI paradigm of cognition as computation.

Instructor: Don Potter

Office: GSRC-113 (enter through 111), Phone: 542-0361, Email: potter@uga.edu

Hours: By Appointment, Drop In, or __ (hours to be determined) __

Notes: Be sure to leave a note/email if I'm not in. If you stop by and the door to 111 is locked, it is possible that I am in the office. Ring the doorbell and wait several seconds.

Text (required):

Artificial Intelligence: A Modern Approach 3rd Edition by Russell and Norvig, Prentice Hall.

References (in Library):

- 1) *Artificial Intelligence, Structures and Strategies for Complex Problem Solving*, 3rd Edition by Luger & Stubblefield
- 2) *Essentials of Artificial Intelligence* by Ginsberg
- 3) *Artificial Intelligence* by Rich & Knight
- 6) Current Literature

Grading:

| | | |
|-------------|-----|---|
| Assignments | 25% | Programs, Homeworks (due periodically) |
| Projects | 25% | Reports, Prototypes, Presentations (due periodically) |
| Exams | 30% | Around Sept 30 th and Nov 18 th (no make-ups) |
| Final Exam | 20% | Around Thursday Dec 11 th : noon |

(Scale: A: 93-100, A-: 90-92, B+: 87-89, B: 83-86, B-: 80-82, C+: 77-79, C: 73-76, C-: 70-72, D: 60-69, F: <60)

Policies

Each student is expected to do his/her own work. Any evidence of academic dishonesty will not be tolerated, and will be subject to disciplinary action. Be sure you are familiar with the University's academic honesty policy as well as the CS departmental policy (attached). See <http://honesty.uga.edu> for details.

Homework assignments are due at the beginning of class on the date they are due. Late assignments will not be accepted. Alternate arrangements must be made in advance of the due date. Typically, make-up exams are not provided. In extremely rare University-approved absence excuse cases, a make-up exam may be arranged.

NOTE: The course syllabus provides a general plan for the course; deviations may be necessary.

TENTATIVE TOPICAL OUTLINE

(Each major topic item is covered at the approximate rate indicated. However, due to the dynamic nature of the in-class activities, there may be substantial variation from this schedule.)

Week1: Introduction and History
 Intelligent Behavior
 Problem Solving
 Intelligent Agents

Week 3: Search
 Blind Techniques
 Guided Techniques
 Heuristics
 Game Playing

Week 10: Knowledge and Reasoning
 Logic
 Rules
 Inference
 Certainty
 Uncertainty

Week 13: Planning

Week 14: Learning

Week 15: Communication

Week 16: Perception

Week 17: Robotics

**Computer Science
Departmental Policy Statement
Academic Honesty**

The Computer Science Department recognizes honesty and integrity as necessary to the academic function of the University. Therefore all students are reminded that the CS faculty requires compliance with the conduct regulations found in the University of Georgia Student Handbook. Academic honesty means that any work you submit is your own work.

Common forms of academic dishonesty against which students should guard are:

1. Copying from another student's test paper or laboratory report, or allowing another student to copy from you;
2. Fabricating data (computer, statistical) for an assignment;
3. Helping another student to write a laboratory report or computer software code that the student will present as his own work, or accepting such help and presenting the work as your own;
4. Turning in material from a public source such as a book or the Internet as your own work.

Three steps to help prevent academic dishonesty are:

1. Familiarize yourself with the regulations.
2. If you have any doubt about what constitutes academic dishonesty, ask your instructor or a staff member at the Office of Judicial Programs.
3. Refuse to assist students who want to cheat.

All faculty, staff and students are encouraged to report all suspected cases of academic dishonesty. All cases of suspected academic dishonesty (cheating) will be referred to the Office of Judicial Programs. Penalties imposed by the Office of Judicial Programs may include a failing grade in the course and a notation on the student's transcript. Repeated violations are punishable by expulsion from the University. For further information please refer to the UGA Culture of Honesty, available at the URL: <http://honesty.uga.edu>.