

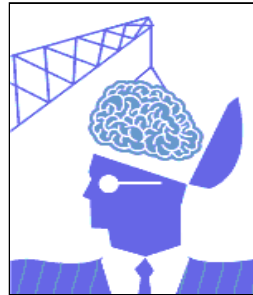
CSCI 3430 Introduction to Artificial Intelligence

Course Description

An introduction to search techniques, genetic algorithms, knowledge representation, expert systems, inferencing, logical reasoning, and learning.

Prerequisites: CSCI 3400 (Data Structures).

Textbook: Artificial Intelligence: A Modern Approach
Russell and Norvig



Grades: Final grade is determined by performance on:

Test #1	25 %
Test #2	25 %
Homework	10 %
Final Exam	40 %

Course Grade Scale:	A	92 -	100
	B	84 -	92
	C	74 -	84
	D	64 -	74
	F	0 -	63

After each exam, I adjust the grading scale if necessary.

Attendance: You are strongly encouraged to attend class. I do not repeat lectures or provide notes. If you stop attending class, I have the right to withdraw you. However, do not assume that I have withdrawn you - a student who stops attending class may receive a grade of WF for the course.

Make-up Policy: No make-up exams are given. If, due to extraordinary circumstances, a student must miss a scheduled exam, the instructor must be notified at least a week in advance unless it is an emergency. A student may be required to submit documentation. If the absence is determined by the professor to be an excusable absence, the weight of the missed exam is placed onto the final exam's weight.

I encourage you to study together and to discuss information and concepts. Cooperation must never involve having possession of a copy of all or part of work done by someone else in any form.

“Augusta University (“AU”) recognizes that academic honesty is essential to its academic function. The [AU academic honesty policy] following regulations protect the equity and validity of the University’s grades and degrees, and help students develop ethical standards and attitudes appropriate to academic and professional life. Violations of academic honesty include, but are not limited to, cheating of all kinds, plagiarism, research misconduct, collusion, and false statements made to avoid negative academic consequences.” - *from the AU Academic Honesty policy which can be found in the AU Policy Library at <https://www.augusta.edu/compliance/policyinfo/policies.php>*

In an academic community, honesty and integrity must prevail if the work done and the honors awarded are to receive their respect. The erosion of honesty is the academic community’s ultimate loss. The responsibility for the practice and preservation of honesty must be assumed by all of its members. Any type of dishonesty in securing those credentials therefore invites serious sanctions, up to and including, a “WF” or “F” in the course, and expulsion from the institution.

Unethical behavior of students in any form is not acceptable and will not be tolerated in the School for Computer and Cyber Sciences. Academic dishonesty – to include cheating on exams, plagiarism of the work of others, unapproved collaboration on graded work, and the like - will be dealt with immediately and with clear consequences. Depending on the nature and severity of the problem, a student who is guilty of any such violation may be: 1) withdrawn from the course with a grade of WF (counted as an F in the GPA); 2) given a grade of zero on the assignment; 3) given a grade of F in the course; or 4) otherwise penalized, at the discretion of the faculty member. Two occurrences of a WF grade for academic dishonesty can result in a student’s being expelled from the University, per current University policy as described in the University Catalog.

Sharing of Instructor-generated Materials

The selling, sharing, publishing, presenting, or distributing of instructor-prepared course lecture notes, videos, audio recordings, or any other instructor-produced materials for any commercial purpose is strictly prohibited. This includes posting materials on websites such as Chegg, Course Hero, and other similar sites. Unauthorized sale or commercial distribution of such material is a violation of the instructor's intellectual property.

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I will make every effort to answer your emails within 24 hours, 48 on weekends.

Assignments: **On D2L course page**

Preliminary Topic Outline

Introduction

- What is AI?

- History and Milestones

Basic Search Techniques

- Depth-First

- Breadth-First

- Nondeterministic

Optimal Search

- Hill-climbing

- Beam

- Best-First

- Branch and Bound

- A*

- Genetic Algorithms

Adversarial Search

- Minimax

- Alpha-Beta Procedure

Expert Systems

- Rules

- Rule Chaining

 - Forward Chaining

 - Backward Chaining

 - Search

 - Relational Operators

 - Rete Approach

Knowledge Representation

- Semantic Nets

- Frames