CSC-568 - Artificial Intelligence

Spring, 2011

Instructor: Michael Black

Email: mblack@american.edu
(please include "CSC-568" in the subject line of your emails to me)

Office: SCAN (Sports Center ANnex) 164, (202) 885-2011 (or x2011)

Textbook: "Artificial Intelligence", Russell and Norvig

Times: 2:35-3:50, Mondays and Thursdays
Anderson B12

Office hours: Tentatively:
Mondays & Thursdays, 1-2:30
Wednesdays, 1-4

Course Description: This course will present a survey of artificial intelligence subjects, approaches, algorithms, and tricks.

Prerequisite: It is assumed that you have taken CSC-280 or have had equivalent basic programming experience. Most class examples will be done in Python, unless another language is more appropriate.

Homework / Projects: There will be approximately 6-8 programming projects that I will post on the course Blackboard account. Projects should be submitted on Blackboard using the digital dropbox.

Grading:

Projects:	55%	
Homework:	5%	(if no homework is given, the projects will be 60% of your grade)
Midterm:	20%	(this may be an exam or a paper)
Final:	20%	

100-93 A 92-90 A- 89-87 B+ 86-83 B 82-80 B- 79-77 C+ 76-73 C 72-70 C- 69-60 D 59-0 F

Late Policy: Most assignments will be submitted electronically on Blackboard, and will be due at 11:59 pm on the date given in the assignment. Assignments must be submitted by the due date to receive full credit, unless I approve prior arrangements. Projects and homework received after the deadline will incur a 50% lateness penalty. No work received after the beginning of the course's scheduled final exam will be accepted for credit.

Missed exams may not be made up. If a true emergency forces you to miss an exam, permission must be sought in writing from the instructor. If granted, the final exam score will replace the score of the missed exam. If the final exam is missed it will simply be dropped from the average.

Academic Integrity:
Plagiarism and academic misconduct are defined in the University's Academic Integrity Code. You should be familiar with what constitutes academic dishonesty. In particular, you should observe the

following rules:

- Collaboration on homework, projects, and exams is strictly forbidden unless stated otherwise in the assignment. Any information taken from the internet, books, or anybody else for use on your assignments must be cited in your submission. You are permitted to discuss your work with other students at the conceptual level only.
- Your code must be entirely your own. You are not permitted to share code or use code obtained from the internet in your work.
- Unless otherwise stated, all exams will be closed-book, closed-notes.
- Instances of plagiarism may be reported and could result in disciplinary action.

Feedback:
I am eager to receive suggestions on how I can improve this course. If you have any comments, please feel free to tell me, either in person, by email, or anonymously in my mailbox.

Approximate Course Outline (subject to modifications. I may rearrange the order of some of these.)

Week	Subject
1	Overview and history of AI
2	Social and ethical implications
3	Searching, minimax
4	Expert systems
5	Prolog
6	Natural language
7	Bayesian learning, Markov chains
8	Text and music composition
9	Machine translation
	midterm will be around this time
10	Neural networks (feed-forward perceptron)
11	Neural networks (other models, applications)
12	Genetic algorithms
13	Chaos
14	Emergent intelligence
15	Robotics