

<h1>Artificial Intelligence</h1> <h2>CS-4173 Syllabus Summer 2005</h2>
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Instructor:	Ron Young	Zap:	10059
Office:	North Hall 333	Location:	Main Hall, Room 2102
Work Phone:	(918) 594-8028	Meets:	Tuesday/Thursday 5:30pm – 8:10pm
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CATALOG DESCRIPTION

This course develops the representation of knowledge, notational systems and search strategies used in applications for artificial intelligence. Topics include parallel and serial processing, unique algorithms, LISP protocols, and natural language processing. Students solve problems and prove theorems within an applications environment. Prerequisite is CS-3173, CS-3183 or consent of instructor.

OBJECTIVES OF THE COURSE

This course provides the computer science and information science student with an overview of Artificial Intelligence. The core topics are covered, with items such as searching, logic, knowledge and reasoning.

- History of where AI came from and where it is headed
- Understand, develop and solve problems using the LISP program.
- Understand the basic fundamentals that are the core of Artificial Intelligence
- Research Projects will allow students to learn and share information on advanced topics within AI.

METHODS OF INSTRUCTION

Instructional methods will include lecture, class discussions, research project, homework and programming assignments.

COURSE REQUIREMENTS

Course requirements will include homework, projects, programming assignments and tests. Students will be responsible for all assigned material in the required text, material presented in lectures and supplementary handouts.

Required Text and Material:

“Artificial Intelligence : A Guide to Intelligent Systems - Second Edition” by Negnevitsky, Michael.: Addison Wesley Publisher

Several 3 ½ diskettes will be needed.

METHODS OF EVALUATION

Evaluation of student achievement and assignment of course grade is as follows:

Exam I	100 points
Multiple homework assignments	50 points
2 Programming assignments	50 points
Research Paper	100 points
Final Exam	200 points
Class participation / attendance	

Your overall letter grades will be assigned as follows A 90's; B 80's; C 70's; D 60's. as a percent of 500 points.

Programming assignments will be graded using these criteria for a total of 25 points:

- 5 points for a completeness (the program attempts to solve the whole problem)
- 5 points for a correctness (the program produces the correct result)
- 5 points for a robustness (the program runs without error and has reasonable error checking)
- 5 points for programming style (indenting, naming conventions, program structure)
- 5 points for inventiveness (did you just barely solve the problem, or did you do more)

CLASS POLICIES

The student is responsible for doing all assigned readings and grasping all the material presented in class which may or may not originate from the textbook. The student will be responsible for the material covered in the lectures, assigned textbook readings and other reading assignments whether or not covered in the class lectures. **IF YOU DO NOT UNDERSTAND A SUBJECT OR WOULD LIKE A FURTHER EXPLANATION, DON'T BE AFRAID TO ASK. . . YOU ARE PROBABLY NOT THE ONLY ONE WHO NEEDS HELP.** To maximize your understanding, please **read the chapter before the class** that the material will be covered in.

Attendance. Students are expected to attend all classes regularly and on-time. Because course requirements include in-class assignments and class participation, your grade depends to some extent on class attendance. Attendance will be taken with a sign-in sheet, so be sure to sign in each week. When you miss a class, you are responsible for getting notes and assignments from another class member.

Assignments Assignments are due at the beginning of class or on the assigned due date. Assignments may be emailed and make sure that I respond as a receipt. Late assignments should be turned in as soon as possible, but will be assessed a late **penalty of one letter grade** for each week late. For this purpose, it is strongly advised that each student get the name and phone number of at least two other students in the class.

Lab Assignments The course requires work on the computer outside of the scheduled classes **The actual amount of time required will vary from student to student.** The student is responsible for arranging his/her individual schedule so that the student can spend the required time on the computer. Computer assignments can be completed using the facilities in the computer labs or other computers on which compatible software is available.

Exams. Special arrangements may be made to take tests early by appointment with the teacher under very extreme cases. Make-up exams are given only in extreme cases and should be taken ***prior*** to the scheduled exam. ***Leaving a message is not making arrangements. Late make-up exams may differ in format, content, and level of difficulty and a 10% late penalty;*** the exam must be completed within one week of the regularly scheduled exam. In case of severe weather, tornado, flood, high water, etc, please leave a message by calling 594-8070.

Honesty Policy Each student is expected to address the assignments individually. While it is encouraged that students work together on the design and trouble shooting of assignments, each

student must turn in their own work. Should two assignments be nearly identical, both papers will receive no credit.

Cheating of any kind shall result in a grade of zero (0) on the test, assignment or quiz in question. The instructor shall be the sole judge as to when cheating has occurred. Collaboration or handing in the work of others is considered cheating. A second incident of cheating for a student will result in a grade of "FAIL" for the course.

Dropping the class. Non-attendance of class does not constitute official withdrawal. Formal withdrawal procedures are the responsibility of the student.

Affirmative Action: Langston University, in compliance with Title VI and VII of the Civil Rights Acts of 1964, Executive Order 11246 as amended, Title IX of the Educational Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, sex, age, religion, handicap or status as a veteran in any of its policies, practices, or procedures. This includes, but is not limited to, admissions, employment, financial aid and educational services.

ADA Statement: Langston University fully subscribes to all required standards of The Americans with Disabilities Act of 1990 (ADA). Persons in need should be registered and approved with ADA should contact Marjorie Aspire in the Office of Student Affairs, North Hall. This should be reported at some point before, during, or immediately after the first scheduled class period so accommodations can be provided for the student to be successful in this class.

Agenda

<u>Date</u>	<u>Subject</u>	<u>Chapters</u>
6/7	Introduction and Housekeeping	
6/9	Introduction to knowledge-based systems	1
6/14	Programming in Common LISP	handout
6/16	Rule-based expert systems	2
	LISP (continued) Production and Matching	handout
6/21	LISP (continued) Production and Matching Program Assignment 1 Research Paper Topic due	
6/23	Knowledge Representation Predicate Logic	handout
6/28	Exam 1 (Chapters 1, 2, handouts and material covered in class) Research Paper Outline and References due	
6/30	NO CLASS (Time to work on assignment one and Research Paper)	
7/5	NO CLASS (Time to work on assignment one and Research Paper)	
7/7	Evolutionary computation	7
7/12	GA Programming Program Assignment 2	
7/14	Uncertainty management in rule-based expert systems	3
	Fuzzy expert systems	4
7/19	Frame-based expert systems	5
7/21	Artificial neural networks Program Assignment 2 Due	6
7/26	Final Exam	

The above is a rough schedule of the material to be covered and may be amended as needed

CS-4173

**Student Information Sheet
Artificial Intelligence**

Summer 2005

(Please Print)

Name: _____

Address: _____

Phone: (Home) _____ (Work) _____

Email Address: _____

(Hours taken this semester) _____ (Hours worked per week) _____

Major: _____

Advisor's Name & School _____

Previous Computer Science / Math courses taken, including this semester:

I have read, understand and agree to the syllabus for this course.

Signature: _____

Date: _____