CS116 – Artificial Intelligence  
Spring, 2004

Course Information
OVERVIEW: The course examines the principles of intelligence, asking questions such as what is intelligence, how is it generated, how can we make computers behave intelligently, and what would mean to us as humans if or when we are able to do so. We will cover the standard problems and approaches of Artificial Intelligence and explore some of the standard questions in Philosophy of Mind. We will also introduce the LISP programming language.
PREREQUISITES: CS30.
COURSE OBJECTIVES: (from the Westmont catalog) “Knowledge representation; search techniques. Functional programming, Neural networks. Expert system construction.” Upon completion of this course, you will understand the basic areas of study in Artificial Intelligence, be familiar with the common techniques used to address the problems of AI, broadly grasp the relevant question in Philosophy of Mind as they pertain to AI, and have a moderate fluency in the LISP programming language. The emphasis will be upon broad understanding and connections to Philosophy and Cognitive Science. However, the course should provide a good foundation for future work in AI, either in advanced undergraduate or graduate-level courses, or in certain applications within the commercial sector.
LOCATION: Voskuyl Library, Room 106
DAYS & TIME: Monday, Wednesday & Friday, 2:00-3:05 pm.

Instructor Information
INSTRUCTOR: Dr. Wayne Iba
OFFICE: New Math/CS Modular Building
OFFICE HOURS: MTW, 3:15-5:00pm or by arrangement
EMAIL: iba@westmont.edu
PHONE: (805)565-6799
Course Assignments, Requirements and Policies

CLASS DISCUSSIONS: A significant portion of the course will address readings in the Philosophy of Artificial Intelligence, and will be conducted in seminar or discussion style. Students are expected to have read the assignment and thought carefully about it prior to class so as to contribute to the in-class discussion. Class participation will be an element in the grading scheme.

ASSIGNMENTS: Assignments will consist of small programming problems and analytical essays on the readings that we will be discussing. Details for each assignment will be posted on the course schedule, and will be due as indicated there. Plan to turn your assignments in well before the deadline as late work may not be accepted. (Exceptions may be made at the sole discretion of the instructor.) Illegible work will not be graded and will receive a zero score.

PROJECT: Students will complete an extensive project on a topic in AI. Projects may either be coding-based or paper-based. Coding-based projects will use the LISP programming language. Research papers will be based upon an extensive bibliography approved by the instructor. Detailed specifications for the project will be provided by the instructor. Students will select topics that are of interest to them and create a proposal that must be approved by the instructor before the student begins significant work.

TESTS & EXAMS: There will be one mid-term and a final exam. Exams must be taken at the scheduled time unless arrangement is made with the instructor in advance.

ATTENDANCE: Attendance is not required although it is highly recommended. Students are responsible for all material covered either in class or assigned readings. You will find it difficult to do well along the class participation dimension if you are not present.

GRADING: Students will be evaluated on how well they master the concepts of programming languages. A final weighted score will be based on the following scheme: class participation (15%), final exam (15%), mid-term (15%), homework assignments (20%), project (35%). The weighted final score, $0 \leq x \leq 1$, will yield a letter grade according to $\lfloor 10x \rfloor$ where 9 or 10 gets an A, and 8, 7, 6 and 5 or less get a B, C, D and F, respectively. A signifier, + or −, will be attached to the letter grade if $x - \lfloor 10x \rfloor$ is $> 0.7$ or $< 0.3$ respectively. (A score of 1.0 will also merit a +.)

ACADEMIC HONESTY: As in every area of life, I expect that you will conduct yourself honestly within the context of this class. Do not attempt to receive credit for work that is not your own without properly acknowledging sources via appropriate citations or references. You are encouraged to get help from your peers, but be sure that you acknowledge such help and that you understand the problem on which help was received. The consequences of violating the trust I implicitly extend to you will be according to the Westmont policy; but more serious will be the damage done to our academic relationship.