IDIS 293
Robots: Past, Present, and Future
Spring 2005

Instructor: Fred Schultheis
Office: PPHAC 218
Office Hours: MW 1:00-2:30, T 2:00-2:45 and I am always available by appointment.
Phone: 610-625-7887

Texts:
I Robot, Isaac Asimov
Flesh and Machines: How Robots Will Change Us, Rodney A. Brooks
Evolution of a New Species: Robosapiens, Peter Menzel and Faith D’Aluisio

Course Description
The course investigates man’s obsession with building mechanical beings and the impact that this obsession has and will have on our everyday lives. We will begin by studying the history of this obsession and some of the predictions that scientists and futurist writers were predicting for their future (our present) and what has come to pass. Next we will study, in some detail, the present state of the art in robotics and how this has affected us. Finally, we will look at the predictions being made for the future of robotics and the consequences for us all.

The course meets TR 12:50-2:00 in room PPHAC 113. Reading assignments will be given at each class meeting. Students are expected to complete these assignments by the next class meeting so that they are prepared to contribute to the discussion. Since class participation is important, students are expected to attend each class.

Course Goals
The course will attempt to make the student more aware of;

• the history of robotics and artificial intelligence and why we are so obsessed with creating artificial beings,
• the present state of the art in robotics including the robots that are all around us now and how our interaction with them effects us as individuals and as a whole,
• where this technology is heading and what this means for our future as individuals and as a society.

Grading
Your final grade will be based on class participation (15%), 2 hourly exams (30%), a brief presentation (5%), a reflective paper (10%), a research paper (15%), and a choice of a comprehensive final exam or a major research project (25%). Some possible topics for the major research project are described below.

Class Participation-Students are expected to attend regularly and to be prepared to discuss the readings and questions raised in discussion. This includes the ability to answer questions about assigned readings through in class discussions and writing activities. I will evaluate your participation highly if you: a) attend class regularly; b) raise relevant questions/offer thoughtful comments
Quizzes-If class discussions do not yield evidence of careful reading and thought, I may administer unannounced (“pop”) quizzes. These quizzes (graded with “plus,” “check,” or “minus”) will help me determine if quiet students are keeping silent because they are shy or because they are not keeping up with the reading assignments. There will be no make-up quizzes.

Possible Research Projects:

If you choose to do a major project instead of a final exam, you must have your topic approved by the instructor by February 25th. You must choose one of the following projects:

1. An in depth research paper using at least 4 sources beyond the required texts.
   Some possible topics are:
   - Algorithms and robots
   - The Present Effects of Robotics and/or Artificial Intelligence
   - The Future Effects of Robotics and/or Artificial Intelligence
   - A History of Robots, Cyborgs, or Mechanical Beings
   - Cinema and robots
2. Robot project-design and build your own robot. There are several, very accessible books on this topic.
3. Computer project
   - Artificial intelligence
   - Robot algorithms
4. Develop your own project in consultation with the instructor.

Academic Honesty

Cheating and plagiarism will not be tolerated. Plagiarism is the misrepresentation of someone else's work as your own. This includes such instances as quoting directly from a published work without giving the author credit (i.e. proper citation), inserting the author's words as your own, using or "borrowing" another student's work, buying a paper from a professional service, etc. It is your responsibility to be familiar with what constitutes plagiarism and, in the event of uncertainty, to ask in a constructive manner about a writing in question before it is due in a final version. You are also required to keep all note cards and rough drafts on papers and assignments until given a final grade for that course. Evidence of plagiarism and cheating will be dealt with in accordance with the college policy on academic honesty found in the Student Handbook. In the event of a suspected infraction – in fairness to your peers and the standards of the college – it is my job to send the materials in question to the Dean’s Office at which time you are given the chance to provide your perspective on the matter.