

91.450 Robotics I, Fall 2002

Syllabus

Contact Information

Prof. Holly Yanco
Office: Olsen 220A (for the next couple of weeks – Olsen 206 after that)
Lab: Olsen 304
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Class Meetings

Tuesdays, 1:00 – 2:15, Olsen 412
Thursdays, 1:00 – 2:50, Olsen 304

Office Hours

Office hours for the course will be held in the lab (Olsen 304) to allow us to work with the robots. I will be in the lab during the following hours.

Tuesdays 2:30 to 4:00
Wednesdays 1:00 to 3:00
Thursdays 3:00 to 4:00

You may also make an appointment with me if you can not make it to the scheduled office hours.

Course Description

In this course, you will learn about robotics, with a focus on autonomous mobile robots. There will be lectures on Tuesdays (held in Olsen 412) and labs on Thursdays (held in Olsen 304). In the labs, you will build and program your own robots. There will be a robot contest (starting Thursday, 24 October with the tournament on Thursday, 7 November) and a final project (with presentations on Thursday, 12/12). You will choose your own final project; I will hold meetings with each group during the week of Monday, 11/11 to discuss what you are planning to do.

Project Sequence

This course together with Robotics II in the spring is a project sequence. Students who took Artificial Intelligence in Spring 2002 will complete their project sequence with this course.

Textbooks

Introduction to AI Robotics
Robin Murphy
MIT Press, 2000

Robotic Explorations: A Hands-on Introduction to Engineering
Fred Martin
Prentice Hall, 2000

Class Website

<http://www.cs.uml.edu/~holly/91.450>

Exam Dates

Midterm: Tuesday, 22 October, in class
Final Exam: To be determined by the Registrar

Project Dates

Tournament Start: Thursday, 24 October
Seeding Rounds: Tuesday, 5 November
Tournament: Thursday, 7 November

Final Project Meetings: Tuesday – Thursday, 12 – 14 November
Final Project Demo Day: Thursday, 12 December, in lab

Grading

Homework and Labs	30%
Midterm Exam	15%
Projects:	
Contest	15%
Final project	20%
Final Exam	20%

Collaboration Policy

Labs will be done in groups of two students each. You may choose your own partners, but I reserve the right to regroup people as the term progresses. For the labs, I expect that each person will do his or her own equal share of the work. To learn, you'll need to actually build and program the robots, not watch another person do it.

Collaboration Policy (continued)

Homework assignments should be written up by yourself. You may discuss the questions with your classmates, but you must write them up individually.

Exams are also to be an individual proposition.

Robots

In the lab, you'll be building and programming robots. We will be using two processing boards as the brains for our robots. The first is the Handy Board, and the second is the Lego RCX from the Mindstorms kit. Our robot bases will be built out of Lego. Each two person team will be given a robot kit with the processing boards, lots of Lego, sensors, and motors for use during the term. Each team will have their own workbench with computer in Olsen 304.

Lab

The lab is in Olsen 304. The door has an id lock, so you will have 24 hour access to the lab. You must enter with your id. From 7:00pm to 7:00am, the door can not be propped open, due to the alarm system.

Each group will have their own workbench with a computer for building and programming their robots. Please try to keep your workspace and the lab neat. If I see a mess from food or drink, I will be forced to ban them from the lab.