ME 3200
Mechatronics I
Fall 2006
Mini DARPA Challenge Project Milestones

This year's project is to design, build, test, and race an autonomous robot that navigate rough terrain and then climb steps and fend off all other robots.

The primary rule to be concerned about right now is the size rule. The robot must start with a footprint size of 250 mm on a side. All driven wheels and tracks must fit no higher than 80 mm above the floor at the beginning of the competition.

1st memo: Write a memo describing 3 methods of climbing up the steps at the end of the competition. This does not preclude doing something right at the beginning of the race to elevate wheels or other mechanisms. One method must use some gear or belt drive. One method must use a linkage of at least four bars (simple lever won't do). One method must use a cam or other mechanism not already discussed.

2nd memo: Write a memo describing your design for the drive train. This will include drawings, specifications, and parts list (motors, etc). Locations for the batteries and Handy Board must be included.

3rd memo: Write a memo describing the performance of your robot in traveling a straight line, turning, and traversing all of the obstacles.

Report/demonstration	Due date
Three methods	27 Oct 2006
Drive train design	10 Nov 2006
Demonstrate driving of robot, steering, climbing	1 Dec 2006
Adding sensors to the robot	Spring
Auto control of the robot	Spring
Complete the course under autonomous control	Design Day