



ME 412

## **AUTONOMOUS MOBILE ROBOTS**

**Fall 2006**

**Time: Wednesdays 6-9 PM**

**Place: The Mechanical Modeling Studio (Room 543E)**

Instructor: Ericson Mar

Contact: Ericson Mar, Dr. C. Stan Wei

The objective of the course is to build a mobile robot capable of competing in a competitive robot tank battle game. This course introduces basic concepts, technologies, and limitations of autonomous mobile robots. Topics include digital and analog I/O, tactile sensing, IR sensing and range finding, light sensing, sonar, magnetic field sensing, encoders, DC motor actuators, servo motor actuators, high-level microprocessor control, low-level microprocessor control, power management, and prototyping. Students will form teams to design and build autonomous mobile robots configured to compete with each other in a singles-match game, or to perform a team-oriented task. During the semester, students are expected to demonstrate progress on the development of their robot and complete project assignments that will lead to the final competition-ready robot.

To get an idea of the contents of this course, please visit:

<http://www.cooper.edu/~mar/>.

Students will be required to pay some basic expenses for project material.

Prerequisites: ME 153 or ECE 151. Limited space is available.