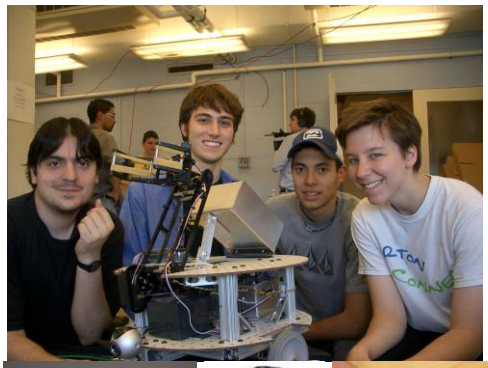
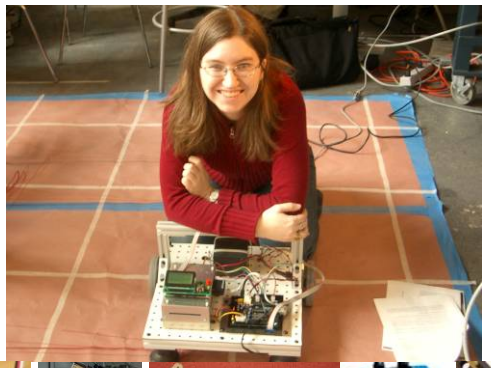
Robotics: Science and Systems I
6.141 / 16.405J

Institute Lab - Spring 2009

- **Build robots that autonomously navigate and manipulate objects!**
- **Learn the fundamentals of mobile robotics!**
- **Explore topics like vision, navigation, localization, and kinematics!**








Course Objective

This project course is a hands-on introduction to robotics. You will be introduced to the basic concepts in robotics, focusing on the mechanics and electronics principles behind building robots and on the classic algorithms, architectures, and theories behind controlling and programming robots. Topics include: motion planning, geometric reasoning, kinematics and dynamics, state estimation, tracking, map building, manipulation, human-robot interaction, fault diagnosis and embedded system development. In labs, you will build a robot and use it to implement the algorithms discussed in class, culminating in the course challenge task.

Course Details

- **Lectures**: MW (and occasional Fridays) 1p-2p (32-155)
- **Labs:** MW 3p-5p (Gelb Lab – 33-004)
- **Credit**: 12 Units (2-6-4), EDPs - 12.
  Fulfills Institute Lab and EECS Departmental Lab credit.
  Carries EECS CI-M credit, and Aero-Astro CI-M credit (by petition).

http://courses.csail.mit.edu/6.141/