

91.549, Mobile Robotics  
Fall 2004, Prof. Yanco

## **Lab 2: Vision and Manipulation**

Out: Thursday, 23 September 2004

Due: Thursday, 30 September 2004

*Overview:* In this lab, you'll use the Phission vision functions to track and move objects. You'll learn to use the pan-tilt-zoom on the camera and the gripper on the robot.

1. Read the Pyro modules linked on the web page (also distributed in class).
2. Experiment with the ptz and gripper services at the command line, moving the camera and gripper around. Nothing to turn in for this.
3. Run the sequencing control puck example in the simulator. Nothing to turn in for this.
4. Write code that will search for a ball of a specified color (you should probably train on the color to eliminate any potential lighting issues), move towards the ball and pick it up in the robot's gripper. Then the robot should look for a bin to drop the ball off at (use one of the brightly colored trash bins – your training might also want to include training for the bin color). Turn in your code and show me the robot working before next week's class.