

91.451, Robotics II  
Spring 2007

### **Lab 3: Navigation and Candle-Finding**

Out: Thursday, 1 March 2007

Due: Thursday, 22 March 2007

**Overview:** In this lab, you'll make your lab navigate from the home circle of the arena through the four rooms, searching for the candle.

**Lab Description:** In this lab, you will use the Hamamatsu flame detector to find the candle, which could be placed in any one of the four rooms of the Trinity arena. You do not need to extinguish the candle at this point. At the end of this lab, your robot should be ready to find the candle in the arena.

You might want to use your wall following code from lab 2 in this lab. You probably also want to use 1-2 top hat sensors to detect the white tape lines across room openings.

**Possible extensions to the lab:**

- Approach the candle, finding the white circle that it's sitting on.
- Return to home after finding the candle.

**What to turn in:** Turn in your (well-commented) code written for the lab. You should also show us your robot working, with us having the choice of candle placement.