

# Embedded Systems

## ELEC3020

### Lab Assignment 8 – Robot Driving

Points: 10

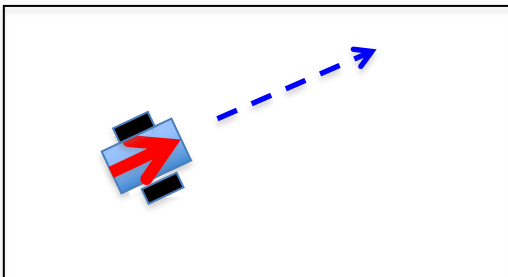
**TEAMS:** This lab will be conducted in teams of 2 students

**EQUIPMENT:** Mobile Robot with Embedded Controller, sensors and motors  
<https://roblab.org/eyebot/eyebot32>

**PREPARATION:** Prepare this lab at home by using the *EyeSim* simulator:  
<https://roblab.org/eyesim/>

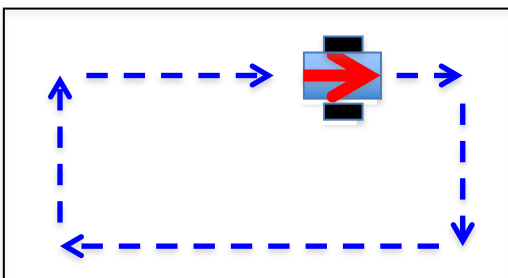
#### EXPERIMENT 1 (2 points)

The robot is starting in a random position and orientation near the middle of the driving area. The task is to drive the robot straight and collision-free close to the wall in front, then turn to the right, so it is parallel to the wall (at the robot's left-hand side) in about 15cm distance.



#### EXPERIMENT 2 (4 points)

With the robot placed alongside one of the walls of the driving area in 15cm distance, drive one complete (and collision-free) loop around the driving area, always keeping a similar distance to the wall on the left-hand-side of the robot.



#### EXPERIMENT 3 (4 points)

Drive the robot in a lawnmower pattern instead.

