ECGR4161/5196, MEGR4127 – Introduction to Robotics
Lab Assignment #4– Version 1.0 – Spring 2021

See Canvas for the due date/time

This lab assignment has two parts and can be done individually or in pairs. Note that each pair submits one video and report.

Submission type: Video and lab report (Must include your names and all video requirements mentioned below)

The main objective of this lab is to have your vehicle drive a single square which is 1 meter on each side (four straights and four 90 degree CCW turns). You will do this:

1. first with no encoder data used (three trials), and
2. second while using encoder data (three trials). This must be accurate within 10 cm (start place to finish place).

Videotape your robot traveling each of these two variants of squares **once**. MARK THE STARTING PLACE on your surface (center the robot on that mark), so I can see how well you travel the distance.

Lab Report - Submission Instructions:

1. Upload a Video to your YouTube account (or other location with a URL). Video only the robot moving (make it short)
2. Prepare a file, output to PDF that includes:
    a. Your names
    b. What the general objective the robot / apparatus is expected to perform
    c. URL(s) of the video
    d. (in report or video) Commentary on the lab (lessons learned, problems encountered).
    e. A table listing the accuracy of each square variant (no encoders, encoders) over three trials each.
    f. Include your code listing as text, courier font, 9 point.
3. Upload the PDF to Canvas, Lab 4 submission