**ECE 1001/1002 Introduction to Robotics**

**Lab #7: Servo and Ultrasonic Distance**

Names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section: \_\_\_\_\_\_

## Requirements and Signoffs

Demonstrate your instructor/TA the working servo-temperature display. T/A: \_\_\_\_\_\_\_\_\_

Demonstrate to your instructor/TA the working ultrasonic distance serial display. T/A: \_\_\_\_\_\_\_\_\_

**Question 1) Is the servo temperature display smooth, or jerky as temperature changes?**

Very jerky and moves back and forth abruptly.

**Question 2) what happens if you make the delay between loops 10 ms instead of 500 ms?**

Because it is updated so often, it doesn’t stop moving and is much jerkier and makes many small movements back and forth.

**Question 3) what happens if you make the delay between voltage1 and voltage2 measurements 1ms instead of 10ms? What if it’s 100ms?**

At 1 ms, the movements get much shorter and at 100 ms the movements get longer.

**Question 4) what is your maximum measured distance? What is the corresponding maximum time?**

The maximum accurate distance was around 130 in, the max displayed was around 806 which is what it for some reason it defaulted to when it couldn’t read the real distance. The maximum amount of time it took was what I guess to be in the realm of 50-100 ms.

**Question 5) list conditions which seem to result in inaccurate measurements?**

If something is too close (within an inch or so) or too far, and if something like a jumper wire is obstructing the view and if the thing it is pointing at is too soft and is absorbing the sound

To receive credit for this lab, you *must* get the sign-off before the due date (see Canvas), during class time or with a TA during their hours. The instructor will not signoff outside of class hours. Partial credit is allowed.