

490B - Assignment 2 – Preliminary 5 Milestone Contract - Group

Due: Before Second Class of Week 1

To be completed in your group. List and **describe** 5 functional “milestones” of your project. In other words, what building blocks are required for the entire project to work. These “building blocks” should be demonstrable, prototyped, and testable. I would like to work individually with each group to isolate the more difficult aspects of the project and arrive at attainable goals that we can achieve throughout the semester.

These will be the 5 demos throughout the semester that lead up to the entire project working. Each one may be an independent aspect of the project or build off the previous one. Each demo should have a measurable outcome that is stated. In other words, what will the instructor see that determines success and what is the acceptable error in the measured output.

- Each demo should either be an independent test or build off a previous one to create a more advanced system that is in a positive direction of the final project goal.
- The successful completion of these 5 demos should result in 80-90% of the project being completed with only a few “loose ends”
- Each demo should be clearly stated with clear expectations of what the instructor and student will see and be accountable for

Week 3 - Demo 1

Week 6 - Demo 2

Week 8 – Midterm Report

Week 9 - Demo 3

Week 11 - Demo 4

Week 13 - Demo 5

Final Week Day – CE Senior Design Expo, Presentations, video of fully working demo during presentation and final report due.

Deliverables: Submit document on beachboard dropbox before the next class meeting, 1 per group. No cover sheet, and follow the example below:

Team Member Name 1
Team Member Name 2
Team Member Name 3

Name of Team
5 Milestone Demos

Demo 1: "Title of Demo" i.e. Distance Sensor and Data Acquisition

Objective: "What is the point of this demo?" i.e. To test and verify the distance/ranging sensor and data acquisition necessary for our autonomous robot to locate obstacles

Verification: "What will the instructor see?" i.e. This test will show the distance measured by the sensor on a serial terminal interfaced to the TM4C. The test will output 1 line of text every 1sec that contains the distance as measured in centimeters with a precision of 1 decimal point

Measurable Outcome: "What constitutes a successful demo (best grade)? What is the acceptable accuracy, error and tolerance" i.e. A successful demo should show an accuracy of +/- 0.1cm and verified using a caliper/ruler.

Demo 2:

Demo 3: