

Mechatronics 333 Project Proposal Instructions and Grading Criteria

Each team email me, with copy to the TA, one final project proposal.
Please use the subject line: ME 333 final project proposal. Be sure to cc all team members

The proposal should be 3-6 pages (approx.), with at least one drawing (hand drawing okay) showing the whole device, a paragraph or two discussing the overall function and goal of the project, as well as discussions of the sensors and actuators you will use, the computation, and the mechanical design. Although you do not have to have worked out all the details, the proposal should show that you've thought about how the whole project will work. Keep in mind that your project will be graded on reliability, functionality, and aesthetics. It can be a fun whimsical project, or it can solve a practical problem. Your project should creatively use simple sensors and actuation, but your proposal should be beyond simply applying what we do in lab. Unless you clear it with me in advance, your project should be stationary (not a mobile robot) in fit in a relatively compact space, like a 1 meter cube box. For feasibility, previous ME 333 and 433 projects are a good indicator of what's possible. It is suggested you meet with me (office hours) before submitting your proposal.

Your project proposal should be 3 – 5 pages and consist of the following sections:

1. Title, team number (e.g., Team 23), team name (you choose), and team members
2. Overview describing the basic operation (no more than 1 page)
3. Project details (this can be broken down into subsystems, but the following issues should be addressed)
 - Sensing
 - Actuation
 - Computation
 - Mechanical design
4. Schedule and breakdown of work, including any special items that may need to be ordered

Your proposal will be graded on the following criteria:

- Is the project ambitious, requiring outside learning and extending beyond what we've covered in class and lab?
- Is the project feasible within 3-4 weeks? Be reasonable! Your grade will depend in part on how well you meet your goals.
- Is the project carefully thought out? What level of detail is given in the proposal? (Note: You do not have to have every piece in place, but you must be able to show that you've carefully considered the project.)
- How creative is the project? Is it useful, aesthetically pleasing, interesting, fun? It need not necessarily be all of these things.

Your project grade for the class is out of 110 points, broken down as follows:

- 10 Project Idea (each student submits one project idea individually)
- 10 Team project proposal
- 10 Team project presentation
- 60 Project Execution (30 for functionality, aesthetics, elegance; 10 for reliability; 10 for reaching stated goals; 10 peer-evaluation)
- 20 Project Web Site