

ME6404 Final Project

Assigned: Friday, 10/23/2009

Your team will propose and complete a control system implementation project of your own choosing. The project should have some component that is completed on a real machine; however, a significant component of the project can be performed in simulation. The project can use any of the three cranes used so far in the course, or any other machine available to your team. The project can be based on any control method, but the techniques should be somewhat related to the material in this course. The project should have the following components:

- 1) Clear statement of the system and performance objectives
- 2) Development of a system model
- 3) Design of a control system
- 4) Robustness analysis of the control system
- 5) Hardware verification

Due: Wednesday, 28 October at the beginning of lecture:

A short proposal describing your project. You will present this to the class and the class will have a short brainstorming session on your proposal to suggest problems and possible solutions. The proposal should be *at most* 1/2 page of text and 2 figures. **Put a condensed version of the proposal on 1-2 Powerpoint slides so that you can present it to the class.**

Due: Wednesday, 2 December in lecture:

1) Presentation of your project (8 minutes at most) in Powerpoint. Your presentation will be evaluated by the other students in the class. This evaluation will determine 5 out of the 20 possible points for the project.

Due: Wednesday, 2 December in lecture:

2) Written report on your project. Be concise and only include figures that demonstrate an important result. Insert the figures into the text near where they are first cited. **The report is limited to 8 pages, including figures.** Use 1" margins on all sides and use a 12pt. font size. Place computer code in an Appendix, but nothing else should be put in the appendix. These pages do not count against your page limit.