Final projects

Part 1: Project proposal. (2 pages)

Select an engineering system or device to study. Select one for which you can build a math model that you can simulate. There are many possible sources for such a model, as noted below. Turn in a two-page proposal: (Page 1) Describe what the project is about and what you plan to do; (Page 2) include a copy of the first page of your reference paper, journal article, reference book section, or other reference material. Some sources of projects are listed below.

- **Professional journals** *(For example:)*
  - ASME J. Dynamic Systems, Measurement, and Control
  - ASME J. Vibrations and Acoustics
  - Mechatronics
  - IEEE/ASME Transactions on Mechatronics

- **Books** *(For example:)*
  - Mechatronics: Electromechanics and Contromechanics, by D.K. Miu
    (Engineering Library: TJ163, M5, 1993) *(See Appendix D in particular.)*

- **Google a device or system** *(For example: vehicle cruise control)*

- **Your work experience or other active interests**

*Please note that it is not easy to find enough quantitative information, even in journal articles, to build a good math model and simulate it. Check your reference material very carefully before you commit to that project.*
Part 2: Project presentation and report

Presentation.

You will have about 5-6 minutes to present your project to the class of fellow dominators. You should plan to use 3 or 4 transparencies. Figures and pictures tell the best story. No time for equations - too detailed.

Final report.

Turn in your final project report at the end of the presentation period. Your report should be concise and organized effectively. There are three key aspects that will be graded:

- Your study objectives (Why did you choose this example and what did you expect to learn?)
- Your technical work
- Your conclusion (What did you actually learn?)

The weightings are 10/75/15, respectively.

Be sure that your report is paginated, has a table of contents, and has an appendix section for the supporting material, including a copy of your reference material. Keep the main part of the report concise and focused. Write on plots to illustrate points. Put your hand work (e.g., equation derivation) into the appendix section.