Term Design Project – Summary

Project Description:
Form teams* of 3 to 4 students and design a new mechanical or electro-mechanical product. The product should have moving parts. Your product will have several moving parts (i.e. a mechanism). The product should be your own design and should have something new or different about it; innovation will be a portion of the grade. Your product does not have to define a new problem; it may provide a novel and/or economic solution to an existing problem, for example: an electromechanical toothbrush designed for use by the disabled or motion-impaired, a garden hose attachment that automatically washes your car while you sleep, a shoe cleaning attachment for a vacuum cleaner, shoes that transform into a skate board...

Project Deliverables:
You will be graded on the following key deliverables:

1. Product Description
2. Concept Sketches – initial and finalized
3. Concept Selection Process (Pugh Matrix)
4. Product Design Specification (PDS)
5. CAD Models – Part and Assembly Models
6. Assembly Drawing with Cross-Sections
7. Exploded Assembly Drawing with Bill of Material (BOM)
8. Detailed Engineering Drawings fully dimensioned with tolerances
9. Tolerance Analysis
10. Materials and Manufacturability – aPriori Cost Estimate

* Option to form teams of your own or be assigned a team. We will be using CATME (see www.catme.org) to organize and help manage our ME170 teams.