

me293 – Project Management & Social Responsibility

Organizing a Project

Pretend you are just starting your Final Year Student Projects Course in the Mechanical Engineering Program at Camosun College. You have a project's group of 4 people.

Your group decides to design, build and package for shipping an **instrumented chin-up bar**.

As part of **this** course, work in groups of 2 or 3 (not 4).

Be aware. You are to do ALL the tasks below or your assignment submission will be rejected without being marked. You will be asked to finish your work off and re-submit it so that it can be marked.

Here is what to do:

1. Consider the product of the project (the instrumented chin-up bar) and read through this entire assignment. Do this before you start so you get a sense of the scope of the work to be done.
2. Brain-storm using a **spider-diagram** and work toward answering the question:
What **components** are needed to create a complete device **and** what **tasks** need to be done to create and complete each of those components?
3. Create a great sketch of your finished product and the packaging design you will use. Make sure your sketch is fully labelled. Use the Sketching Guide for Engineers that recently appeared on the course website.
4. Review your spider-diagram and identify, using a scale of 1 to 5, areas that worry you (1 is not worried, 5 is most worried). Mark on your spider diagram these scores and, for any item with a score of 2 or more, what it is that worries you.
5. For each worry-item, do a mini-spider diagram that identifies the worry, then creates tasks to do what ever is necessary to bring this worry-item down to a worry level of 1. You are attempting here to create a design where everything is known so that you can simply move through the design, analysis, manufacture and packaging stages in a smooth, trouble-free fashion.
6. Take all these tasks (and there will be a fair number of them) and create a Gantt chart. Call it Gantt Chart #1. Remember this is your Final Year Student Project. You will only have 10 weeks to do the actual work.
7. For each task identified on Gantt Chart #1, assign people to do the work. Once done, think about how busy each person will be. Is each person fully engaged and utilized for each week of the project? Probably not. Identify who and when someone is super-busy and who and when someone is not. Redo your Gantt and people utilization plan so everyone is engaged, at a reasonable pace, throughout the project. Call this Gantt Chart #2. This is your plan.
8. Produce a network diagram of Gantt Chart #2. Calculate the ES, EF, LS, LF and slacks for each task and clearly identify the critical path tasks.
9. Produce a cost estimate for each task and work out an overall project cost.
 - Get real purchase prices from real suppliers. A list of some will appear on the course website.
 - Consider shipping and taxes.
 - Pretend that you and your group members will get paid \$20/hour for your efforts.
Don't just think – 7.5 hours in a day, 5 days a week.
Really think about how many real hours each task will take and use those.
10. Formalize all this into a wonderfully organized report. Not formal, no CAD drawings, hand-done Gantt charts and network diagrams are fine. It all simply needs to be super-organized, nicely laid out and easy to follow. Put ALL your rough notes in an appendix at the back of your report.