Report 2B – Individual Final Design Report Criteria

The design document should examine aspects of the product specific to your allocated sub-system(s). The design should show that the sub-systems have met all specifications. Examination of the sub-systems should be based on documented specifications of components, software, and engineering theory, and supported by experimentation.

The report should contain the following:

- An **Executive Summary**
- **Problem Description:** In your own words, a brief summary of the problem you have solved. Include some different viewpoints of the problem that were not immediately obvious from specific the product sub-system description; in addition highlight some problems you encountered during your design and describe how you overcame these problems. Describe how your sub-system(s) integrated with the rest of your product design.
- **Solution:** Overall description of your approach to solving the problem. Depending on your sub-system(s), your report could include one or more of the following:
    - Mechanical Layout: A neat drawing of your sub-system with sufficient detail to explain the operation described in subsequent sections. Mechatronics students are expected to provide adequate technical drawings for your design.
    - Operation Manual: Describe how a user would use your sub-system. This section should also illustrate the user interface for your product (including your software).
    - Electronics: Describe the electronics used in your sub-system. Break the electronic design into coherent modules illustrated in a block diagram. Explain. Show schematics for each module and explain in detail the operation of each block.
    - On-Board Software: Describe the software to be used in your sub-system. Break the software into modules illustrated in a block diagram or by pseudo code. Explain in detail each module. Show code fragments for important modules.
    - PC based Software: Describe the software to be used on the PC. Break the software into modules illustrated in a block diagram or by pseudo code. Explain in detail each module. Show code fragments for important modules.
- **Verification of Solution:** Show that the parts described above will form a cohesive sub-system that meets the specifications. Show that your sub-systems integrate into the rest of the product. This section should demonstrate that you have considered and understood the problem as a whole, and not just as a number of loosely connected sub-problems.
- **Project Plan and Management Review:** When were each of your sub-systems completed. How well did you follow your original plan. How accurate were your original time estimates, which tasks should have been allocated more time or delegated to other team members. Review your team's management practices throughout the semester, highlight what worked well and what didn't work well.

The report should have a title page with the report title, author name and student number, team number, and a list of the other team members. The report should include an executive summary and may include relevant appendices at the end of the document. All figures should be kept as near as practical to the text which refers to them.

The report should total less than 10 pages, including diagrams but excluding title page, table of contents, appendices, and executive summary.