Suggestions for writing ME4232 reports

1. Make sure you understand the main learning points of the laboratory. Write the report so that it illustrates and supports these learning points. *How* you learned them, and *so what*.

2. For the experiments on the hydraulic workbench, the main points usually involve testing a hypothesis, and figuring out some constants. In the electrohydraulic control experiments, the main points are about the properties of the various controllers.

3. Explain how the experiment you did answer the question.

4. Include analysis whenever appropriate

5. Discuss the extra experiments that you did

6. Discuss assumptions and whether they are satisfied or violated, *How* do you know that?

7. Make sure you label the graphs (axes, title and units).

8. When finding parameters, try to use the method of least squares (usually involves plotting something and finding the slope and intercepts). *So*, you need to know how to manipulate the data so that least squares method can be applied.

9. Discuss the differences between expected results and obtained results, and propose explanations (this means that your original assumptions are violated somehow)

10. Keep the reports succinct – repeating the lab procedure in the handout is meaningless. You can summarize the procedure focusing on the rationale of the procedure (point 3). *Also*, reporting the raw data is not needed when you already plot the data.

11. A picture and/or an equation paint a thousand words.