ECE 4220/7220 Lab Guidelines

General
- Students are expected to be present at every lab session, even though labs cover two week spans.
- Pre-labs are to be typed in the students’ own words (no printouts of web pages).
- Pre-labs are due the day the corresponding lab starts, at the beginning of the lab session.
- Lab reports and program demonstrations are due one week after the second week of the lab.
- When presenting your program, you should be ready to answer questions about the concepts covered in the lab assignment, your implementation and your results.
- Students should upload the pre-lab and post-lab reports only in *.pdf format by the due date. Along with the post-lab, the source code should be uploaded in *.c format.

Post-Lab Format
Post Labs should contain the following sections:

Objectives and Lab Description: Describe what the goal of the lab was, i.e. the objectives, what you needed to accomplish. Provide a brief, general description of the lab assignment. (5 pts.)

Implementation: In this section you explain what you did and why you did it that way. It should contain a flowchart of your program(s). (10 pts.)

Experiments and Results: Here you describe the tests that you did and present the results that you obtained. How did you make sure that your program was working properly? What cases did you try? How many times did you run your program(s)? How did you divide the work? In addition to describing your results, you can/should include tables, charts, snapshots, etc. Be sure to include statistics, when appropriate. (15 pts.)

Discussion and Post-lab questions: Discussion/analysis of the results, whether correct or not. Did your observations/results make sense? Were they what you were expecting? Why or why not? Discuss any problems that you may have encountered while coding the lab. How did you fix them? Talk about what you learned, interesting/unexpected things that you observed, problems/limitations that the current approach may have, alternative solutions/approaches, etc. In this section you should also provide answers to the questions in the lab handout, if there are any. (15 pts.)

Code Section: Your code should be properly indented and commented. (5 pts.)

Please write your report using paragraphs, not bullets.
Helpful Material

- We use a real time implementation from RTAI their website is: www.rtai.org. They provide a large amount of documentation
- The user manual for the board and the processor are located on Blackboard: “ECE 4220/ECE 7220: Course Content > Software, Manuals and Tutorials”. The names are “EP9301 Processor Manual” and “TS-7250 Board Manual”. These manuals contain the information about the location of ports and interrupt registers.
- There are many extra files or binaries that will be referenced in the Labs. These are all located on the server nfs1.ece.missouri.edu in the /opt/ts7250/students directory.