University of Alaska Fairbanks
Electrical and Computer Engineering Department
EE 608 – Power Electronics Design
Laboratory Policies
Spring 2013

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Lab Reports

1) All students will be required to write individual lab reports for each lab. The lab reports for one-week labs are generally due one week from the date the lab is completed and are worth 100 points. Multi-week lab reports are due at the beginning of the next new lab assignment with point totals assigned based on the level of work involved. *Late labs lose 5% for each school day past the due date.*
2) Some labs will involve computer-based assignments. Lab assignments requiring PSPICE can be completed on the computers in Duckering 202 during and outside of lab time. Hands-on labs will be in Duckering 216 or 330. The Senior Design Project will be in Duckering 216 (construction) and Duckering 202 (simulation and oral presentations).
3) Lab reports must be written using a word processor and printed on 8.5”x11” paper. The only exception is when hand calculations from the lab are asked for. Also you must attach all of your lab results (handwritten) to the back of your lab report.
4) Lab attendance is mandatory and completion of all labs (including lab reports) is required to pass the course.

Note: It is the responsibility of the student to arrange make-up labs (in advance).

Lab Report Format and Approximate Point Distribution

I. Title Page: Lab number, lab title, student’s name, course number, and date. (5%)

II. Objective: A statement of the lab’s purpose. (5%)

III. Circuit Diagram(s): Circuits used in the lab procedure with captions. (10%)

IV. Observations and Results: Observations in tabular and/or graphical form, including all intermediate calculations and results. It is only necessary to show one complete representative set of calculations when several sets of the same calculation(s) are required. A brief written discussion or statements concerning observations and results is required here. (40%)

V. Conclusion: General discussion of the overall laboratory, general comparison of results with theory, and suggestions for improvement. (15%)

Note: 25% of the total points will be set aside strictly for the content, English usage, organization and format. However, I reserve the right to deduct more than the allotted points for formatting and presentation issues in individual sections.

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Report Guidelines:

1) Figures and tables must have captions and need to be referred to in the text. Figure captions appear below the figure and table captions appear above the table. Label figures and tables in consecutive order as they appear in the document.
2) Data should be tabulated in a computer spreadsheet and imported into the document as a table(s).
3) Plots should be imported as a figure from digital oscilloscope waveforms or a computer spreadsheet.

Grading

Lab #1 (1 week):	100
Lab #2 (2 weeks):	150
Lab #3 (1 week):	100
Lab #4 (1 week):	120
Lab #5 (2 weeks):	130
Lab #6 (2 weeks):	150
Total Lab Points	750 (Convert to 150)

Simulation Software

Some labs will involve the use of PSPICE simulation tools with Power Electronic libraries located on the machines in the Power Computations Lab (Duckering 202). This is part of OrCAD Lite 9.1. I can provide a copy of the software and library files for Windows OS (XP, Win7, and Win Vista compatible).

Hands-On Labs

Hands-on labs will be performed in the Electric Machines Lab (Duckering 330) and the Instrumentation Lab (Duckering 216).

SAFETY PRECAUTIONS for Hands-On Labs:

1) Be sure to remove all rings, necklaces, long earrings, etc. while working in the lab. These are items that can get come in contact with high voltage being used in the lab.
2) Always check to make sure that all power is turned off before wiring a circuit.
3) DO NOT energize circuits until the lab instructor verifies the connections and always turn off all power sources before rewiring the circuit.