

Transmission of Information

ECE 440 LAB

Spring 2014

Last updated: 1/15/14

Lab Information

Contact Information

TA: David Zilz
dzilz@purdue.edu

Lab coordinator: George Hadley
ghadley@purdue.edu

(Please include “ECE440” in the subject line of any emails. Thanks.)

Lab Website

Visit https://www.projectrhea.org/rhea/index.php/ECE_440, or search “Project Rhea Purdue” and navigate to “ECE 440.” This page will be used for two primary purposes:

- Important documents will be made available, including the labs for each week.
- Clarifications and answers to questions will be posted on the discussion board of the corresponding lab assignment.

Lab Format

There are eight labs in total, many of which take two weeks to complete. The content covered by the labs is related to, but not synchronized with, the lecture portion of the class. Therefore, in order to maximize in-lab learning as well as your grade, it is of the utmost importance to read and understand the lab assignments before coming to lab. Your TAs are available to help with this and can be contacted via email or during open lab hours. To ensure the labs have been read and understood, quizzes will be given at the start of class after pre-labs have been collected.

Pre-Labs

The start of every lab assignment contains pre-lab questions to prepare prior to performing each lab. Write-ups to the pre-labs will be collected at the start of each lab session. For labs which span two weeks, you will be notified in advance which pre-lab questions are due the first week and which ones are due the second week of the lab. Answer all questions to receive full credit; blank responses will no credit.

Quizzes

Quizzes are given at the start of most lab sessions, after pre-labs are collected. These test your knowledge of the material for the current lab, and sometimes include questions over previous labs. Sometimes a lab TA may send out information concerning a lab that they feel may be useful. While not required reading, the extra material will make the labs and quizzes significantly easier on a conceptual level. You are typically given 10 to 15 minutes to complete the quiz, and will be told the time limit when the quiz is passed out. The quiz ends at the same time for everyone, so it is important to not be late. If you are late or taking an unexcused absence and miss the quiz, you will receive a score of zero.

Attendance and Participation

Labs must be performed during the scheduled lab sessions. If necessary, they may be finished during open lab hours. You will be assigned a participation grade on a scale from 1-10 based on performance, effort, level of engagement with the material, and attendance.

Lab Data

Each individual is required to gather his own lab data in his own lab notebook. You and only you are responsible for your data. At the end of the lab session and open lab hours, the TA will sign your data and collect carbon copies of your data as proof of effort and attendance. Be sure that each individual records the data as you complete the lab. This is to ensure accuracy and that you get credit for the lab. Blank lab data pages will not be signed.

Lab Reports

For every lab, you are required to complete a *typed* lab report. The lab report is due at the start of your lab session after the last session when the lab was done. There is only one report for every lab, even the two-week labs. So, if you have a two-week lab and the last scheduled day for the lab is Tuesday the 15th, your lab report is due at the start of the lab session on the 22nd.

Within the body of the report you must answer any and all questions posed by the lab assignment. The lab report must also include any data you were required to gather and plots you were required to generate. Plots, charts, and answers to all questions must be comprehensible (for answers to questions this means complete sentences) and clearly and thoroughly labeled, including references to the “number” of the problem in the lab assignment. For calculations, you must show and explain your work so that the grader is able to understand how you arrive at the answers you give.

You are NOT expected to write a full description of the experimental process, with sections for objective, background, procedure, etc. I assume you've learned how to do that in other science courses, and therefore I do not see a need to spend extra time on it in this course. For ECE 440, just answer the questions and provide whatever data is requested in the lab assignment. Everything should be presented coherently, but just stick to the lab assignment.

In addition, while you work in pairs in during the lab, each individual is responsible for his own lab report. While there is bound to be overlap among partners, nearly identical lab reports will be treated as cases of cheating.

Lab Practicals

There are two lab practicals, one at the midpoint of the semester and one at the end. Each is to be completed individually. Each tests your knowledge of the material for that specific half of the semester. Each practical is split into two sections, one conceptual and one build section. The conceptual portion tests basic knowledge from the quizzes and prelabs. The build section checks your familiarity with the equipment and system design from the labs.

Late Policy

As stated earlier, pre-labs and lab reports are due upon your arrival to lab. Anything after that counts as late (including working on them during lab). If your assignment is turned in late (after the beginning of the lab session it is due), up to one week later, you will receive a deduction of 10% of the maximum possible points. If you turn in your assignment during the second week of its being late, you will receive a 20% deduction of the maximum possible points for the assignment. If it is not turned in by the start of the second lab session after it was due, the assignment cannot be accepted and will receive a score of zero.

Lab Safety and Policies

- No shorts or skirts are allowed in the lab. Wear full-length pants. Contact with the underside of lab benches (which are electrical ground) creates an electrocution hazard.
- Food and drink must be wrapped, or in covered cups, inside the lab. Furthermore, no eating or drinking is allowed inside the lab at any time.
- Do not move machines in the lab. At the end of each lab session or open lab hours, non-machine equipment (cables, etc.) must be returned to its original/proper location.
- Failure to comply with these policies may result in grade reductions.

Grade Breakdown

The distribution of points in the lab is assigned as follows:

- Lab reports: 30%
- Pre-labs: 20%
- Quizzes: 15%
- Practical 1: 15%
- Practical 2: 15%
- Participation: 5%

Special Accommodations

Special accommodations for quizzes, practicals, etc. are only given after proper documentation is provided to the TA according to official Purdue policy. This must be addressed within the first week of lab.