

Lab Rules and General Procedures

Laboratory safety

1. Immediately report any dangerous conditions to your lab instructor even if you are not sure of the hazardous level.
2. In case of emergency, immediately notify your lab instructor and/or call 021-54749110.
3. No student is allowed to work in the lab alone at any time.
4. Immediately report any equipment failure to the lab instructor.
5. When in doubt, ask your lab instructor for help and do not touch anything.

The Honor Code

JI Honor Code applies to all lab work, including the pre-lab assignments, the in-lab data, and the post-lab report. Every student is expected to abide by the Honor Code.

The Honor Code is based on the following tenets:

- *Engineers must possess personal integrity as students and as professionals. They must honorably ensure safety, health, fairness, and the proper use of available resources in their undertakings.*
- *Members of JI are honorable and trustworthy persons.*
- *The students, faculty members, and staff members of JI trust each other to uphold the principles of the Honor Code. They are jointly responsible for precautions against violations of its policies.*
- *It is dishonorable for students to receive credit for work that is not the result of their own efforts.*

In the labs you work in teams of two or three. At home you talk with classmates, roommates, friends and relatives about your lab reports. This is perfectly okay. After all, everybody knows that engineers work in teams.

At the same time, you are entirely responsible for your own lab report. Any part of your lab report should be yours, not a copy of somebody else's. There is no contradiction between teamwork and individual authorship of each report.

In the lab, you work with your partner to build the circuits and collect data. Even though you have the same set of data as your lab partner, every student is responsible for learning the equipment and lab skills. Your partner might provide a valuable second opinion, but you are responsible for all your records.

You should clearly feel and never cross the borderline between using someone else's expertise and advice (which is a part of learning) and turning in someone else's work as if it were your own (which is plagiarism and blatant violation of professional ethics).

Structure of a lab report

1. Pre-lab assignment 25%

Pre-lab assignment is based on theory and will be given before the lab.

Pre-lab should be written in ink and turned in at the beginning of the lab. During the lab, your instructor will check the pre-lab, but will not collect it.

2. Lab data (in-lab work) 25%

Lab data should be neatly written *in ink*. Any data recorded by pencil will not be accepted.

Your lab instructor should sign your lab datasheet after you completed the lab experiment, before you leave the lab. The lab instructor will not collect lab datasheets until you complete the post-lab.

3. Post-lab data analysis 50%

Post-lab is based on both theory and your lab data. It is the most demanding and thus the best rewarded part of the lab report.

A good post-lab report generally consists of sufficient background information, data analysis, discussion and conclusion.

Post-lab report should be turned in at the beginning of the next lab (due in class for the last lab) in hardcopies, together with pre-lab assignment and lab datasheet.

Laboratory procedures

Lab sections meet once a week according to the schedule. Each lab session is scheduled for 2 hours, and consists of alternating parts of *learning in the lab* and *lab experiments*. Students should print out datasheets and lab manual provided by lab instructors beforehand and bring them to the lab.

Learning in the lab provides detailed, step-by-step explanations of lab procedures and includes experiments, in which students learn to use the equipment, do measurements.

Lab experiments immediately follows *learning in the lab* focused on the same topic. Students build circuits, do measurements, and write their results and conclusions in the datasheets. Pencils are not allowed in the lab.

To prepare for the lab, do the following:

Read the description of the whole experiment, including the introduction, background, and procedures.

Complete the pre-lab assignments before you come to the lab.

In the lab, students work in teams of two or three. Each student should learn how to build circuits and use the lab equipment. Each student has to write the pre-lab assignment, in-lab data and post-lab reports individually.

During each lab experiment, students are expected to

Record experimental data in the form of numbers, tables, plots of waveforms and spectra, etc.

Make simple calculations to determine how well the lab data agree with theoretical expectations (most time-consuming calculations are done in the post-lab)

Write brief comments on the measurements, e.g., compare the waveform observed in the lab with the waveform plotted in the pre-lab, etc.

Rules of the lab

Upon your arrival at the lab, fill in the lab logbook on the table.

Until your lab instructor signs all your data, keep your workstations turned on and your circuits connected to the instruments so that you can repeat any measurements if needed. Thus you can promptly correct a mistake or make up for inadvertently skipped measurements. **NO leaving the lab until the lab instructor signs their lab datasheet.**

After the instructor signed your datasheets, students should turn off the workstations and clean their worktables.

Start learning the professional way to handle lab data. If you make a mistake, neatly cross it out and continue on. As long as your datasheet is neat overall, you will not lose points for a crossed out material.