The “good” laboratory habits you want to develop are related to the following three basic areas: Safety, Performance of the Experiment, and Reporting of Data

**Safety**

You are responsible **not only for your safety but also for the safety of others** around you.

**Electrical Safety**: Avoid high voltage leads. Make sure that the **power is turned off** whenever you work on high voltage circuits. Do not leave exposed leads lying around.

**Mechanical Safety**: Stay clear of rotating machinery and away from heat sources and high pressure pneumatic lines. Wear safety glasses and/or gloves whenever so instructed.

**Handling Toxic Material**: You will not be handling any toxic material in this course. If you need to do so for your open-ended project, please ask for the appropriate instructions.

**Equipment Safety**: If you are not sure about how to use an instrument, read the manual and/or ask the instructor or the stockroom technician. Do not operate instruments beyond their rated specifications. You are responsible for any breakage caused by carelessness.

**Performance of the Experiment**

1. Be systematic in your approach to the experiment. It is a good idea to prepare a list of instruments, circuit diagrams, data tables, etc., ahead of time.
2. Perform a preliminary or trial run before taking actual data. This will provide you an opportunity to quickly check whether or not the experiment is working.
3. Organization counts for a lot. Do not jot down data on stray bits of paper. Use a lab notebook to take data. It is a good idea to write notes as you are doing the experiment – it is amazing how much you can forget between the time you run the experiment and the time you start writing your own report.
4. Neatness is critical when several people need to use the same laboratory set up. Make sure to clean up your station when you are done with the experiment.
5. When taking data make sure that you write down the units of measurement, the instrument used, and the values of monitored/controlled variables.
6. Perform a quick preliminary analysis of the data before you dismantle the equipment.

**Reporting Data**

1. Make sure that every table has a number, a title, and column headers with appropriate units whenever applicable.
2. Every table and figure should have a number and a legend associated with it.
3. Every graph or plot should have a number, a title, labels and units for the axes, and a legend (in the case of multiple plots).
4. References (sources that you have quoted directly from) should be indicated in the text. Since you also need to provide the details in a separate reference section at the end of the report, make sure that you note down the details even as you are reading the reference source. Same goes for material obtained from the Internet.
5. Make sure that you distinguish between References and Bibliography (general background reading).
6. Reports must be submitted individually. Data, collected as a group will be evaluated by each student and prepare corresponding results individually.