Laboratory notebooks are an important part of being an engineer and will be a major factor of your grade in 123A and 123B. When you have an industry job you will typically be issued a lab notebook in which you will be expected to keep notes on your project. The notebook belongs to the company and many times they will keep it if you leave. The notebook serves many important functions such as:

- Description of project, team members, contact information
- Schedules
- Recording of problems and solutions
- Documenting experiments
- Taking meeting notes
- Keeping todo lists
- Showing proof of work for patent filling and disputes
- In case of your death or absence a source of information for other teammates
- Creating a traceable, chronological record of your work
- Scribbling ideas, equations, schematics and taking data and writing down your thoughts and summaries

For 123A/B you will keep a bound notebook that you will date and time whenever you are working on your project. Each entry should be like a journal with a title and description of what you are doing. It might just be stating you were researching into microcontrollers for 2 hours with a list of the controllers you looked at and some of their pros & cons.

In addition to the bound notebook you will also keep a 3-ring binder that you will keep your schematics, data sheets, and other printed documentation that you do not want to cut and tape into your notebook. This 3-ring binder will have indexing tabs with descriptions and page numbers so you can reference material in it from your notebook.

The laboratory notebook is required to have page numbers and an index. We will discuss lab notebooks in more detail in class.

To summarize, you will be required to have in 123A/B the following:

- A bound laboratory notebook with an index and page numbers.
- A 3-ring binder to hold data sheets, specifications, and documentation.

These cannot be combined.
This is a list of the required information that must be in your bound laboratory notebook and the 3-ring binder for this class. Please be diligent in using these and do not wait till the end of the quarter to “fill it up”. You will be randomly asked to show them to the instructors, especially in 123B, during the quarter.

The bound laboratory notebook MUST contain the following:

- Your team charter listing team members and contact information and a description of your project.
- A table of contents with page numbers to major sections, you do not need to put an entry for every page (though you can).
- Each entry in the notebook should have a title and time/date stamp at the beginning.
- Each entry should have a time stamp at the end. Basically when you open the notebook put a title and the date/time. When you are finished working for that session, write down the time that passed.
- Each page must be numbered.
- Starting on the back page and growing to the front of your book (like a stack) you should have a todo list/outstanding issues/questions list. When these are accomplished they should be checked off and a page number to the solution should be listed.
- A summary of each week’s work completed (including the total time spent on the project) and what the plan for the coming week will be. This will be REQUIRED information in 123B when you meet weekly with the instructors.

The 3-ring binder MUST contain the following:

- Your team charter listing team members and contact information and a description of your project.
- Numbered/named tabbed sections to contain supplementary material, like datasheets, application notes and what not. Each section must have a page numbering scheme and with an index page at the beginning. The idea is to allow easy reference from your bound notebook. The following sections are mandatory:
  - Application Notes. Number app note by sets as AN-1, AN-2, etc.
  - Datasheets. Number datasheets by as D-1, D-2, etc.
  - Components. Number entries by set as C-1, C-2, etc.
- A table of contents with a description of each of the sets in the sections.

It may seem excessive to you to keep such detailed notes. The reason is quite simple, experience. You only learn by doing. To become competent at estimating how long it will take to do a project you need to keep track of past projects to use as a reference. Also, you want to learn from your mistakes and to do this you need to document them. This is a long project and you will forget things. Your laboratory notebook and 3-ring binder are tools to help you to recall things quickly and effectively.