

# LABORATORY NOTEBOOKS

(Not Required for Spring 2016 but Recommended)

Each student may choose to maintain a separate laboratory notebook, even if the student is part of a team. Your notebook must contain a comprehensive, *real-time* documentation of the entire history of your contribution to your project. Another Electrical/Computer Engineer should be able to duplicate your work from your notebook.

The notebook itself must consist of consecutively numbered bound pages. This helps establish chronological order, an important factor in patent law.

## Rules for Notebook Maintenance

1. All engineering notes, calculations, circuits, experimental procedures, collected data, tables, figures, theoretical assumptions, references used, problem statements and approach to solution, etc., must be entered directly into the notebook as you perform them, i.e., in *real-time*! Write numbered headings for a major section of your notebook (1. My Proposal, 2. Development of a Widget, etc.), and introduce non-numbered subheadings as desired (Widget Subsystem M5). Label all tables, figures, diagrams, and number consecutively.
2. Date and sign each page. Leave the first two pages blank for a table of contents. If a page, or a substantial portion thereof, is left blank, other than the first two pages, draw an X through the area and write "This page/space is blank" in the middle of the area.
3. All entries must be made in ink. Do not attempt to erase or make changes to an entry. Draw a line through incorrect entries, but so it is still readable, and add the correct entry, if space permits. Date and initial the change if it is different from the date of the original entry.
4. Begin with a proposed project showing a breakdown of all the important subsystems and a time-line for realizing each. Write what you hope to accomplish. The scope and direction of your project will most certainly change as you progress. Such changes must be documented and shown in relation to the original objectives.
5. For all experiments you perform, your laboratory notebook must: (a) state the purpose of the experiment; (b) outline the procedure by which you plan to accomplish the purpose; (c) draw block diagrams, timing signals, circuits, mechanical structures, and the actual experimental arrangement; (d) specify manufacturer part and model numbers of all devices and indicate the test instruments employed; (e) present the results in appropriate form; graph, table, etc.; (f) state any conclusions; comment on the data; what has been learned, and was the experiment a success.
6. Photographs, computer plots, and other materials, which cannot be drawn or written in the notebook, should be glued permanently to a notebook page, labeled, and numbered.
7. Continuity must be maintained throughout the notebook with all work being thoroughly cross-referenced to material elsewhere in the notebook.
8. All sources for circuits, ideas must be documented according to IEEE journal style references. Do not claim any ideas not your own.
9. Any new or improved solution to a problem may be patentable. Entries relating to such solutions must be witnessed and dated by two persons who understand the invention but are not co-inventors.
10. At the end of the semester, fill out the table of contents.