The Engineering Notebook

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Introduction

The purpose of this document is to describe the Engineering Notebook and present rules for its proper usage. Properly done, the Engineering Notebook can prove to be one of the most effective tools in the Engineer's (or Engineering Student's) tool-kit. It can resolve disputes of memory, serve as repository of decisions and justification of same, and provide information useful in estimating required effort on future projects.

Purpose: Record of development - diary

The purpose of an Engineering Notebook is to document in written form the efforts of its author on one or more projects in a time-sequential form. It is the equivalent of a technical diary. The Engineering Notebook contains (among other things)

- the ideas of its author,
- the alternatives considered,
- decisions reached,
- interactions with other people and with organizations,
- the changes made along the way, and
- the implementation flow of projects, labs, etc.

Rules

The Engineering Notebook is to be a permanent record for purposes of reference, growth of the engineer, defense, and completeness. As such, it must be provable that things are recorded in a consistent, timely, orderly manner. The written record must be in permanent ink and in a book where the pages and their order can not be changed. Usually, Engineering Notebooks consist of specially manufactured bound books with pre-numbered pages. All entries should be dated, and no large blank spaces should be within the used portion of the notebook. If it is desired to skip to another page, then the blank space should be lined out in ink. Often, it is advantageous to record other details such as time of the entry, who one talked to, and amount time expended on the effort.

One should attempt to record everything of any possible relevance in the Engineering Notebook. It is impossible to prejudge the importance of small details in the middle of the project. Without a mind-set to record everything, significant items will be missing from the record.

Significant printouts, memos, and other items may be taped into the Engineering Notebook in the order received with handwritten dating and titling to substantiate their entry.

Errors in the written record are corrected by making additions to the notebook in the proper sequential location of the Engineering Notebook explaining the previous errors. It is legitimate
to make a small, dated notation near the error referencing the later page(s) where the correction is located.

**Taking Data**

The most important activity regarding the Engineering Notebook is the recording of information. If one does a poor job of data recording, then all other uses of the notebook are diminished. One must maintain a mind-set whereby all data is immediately, accurately and completely recorded in the Engineering Notebook.

If in recording information or ideas an error is made, strike out the error with a single line through it. Sometimes, the idea was useful after all. The errant data might be valuable in some (presently) unknown context.

One should consider what the organization (if any) of the information is, and if appropriate, construct a table. If the concept of a table or other format occurs after data collection, simply add the table to the present input location of notebook and add cross-referencing information.

Finally, one should consider sketches a valuable method of documentation. Include sketches showing equipment setups, maps to desired destinations, location of special switches, etc. in the engineering notebook so the information can be retrieved at a later date.

**Extras**

This section includes some tested ideas for effective use of the Engineering Notebook in various environments. One should feel free to pick and choose and/or modify and adapt these techniques for their own use.

Log questions as they occur. Use an unfilled-in symbol like a circle, triangle or diamond in the margin to mark these items. When these questions are resolved, color in the symbol. To-be-done items can also be accommodated in this manner. One of the authors uses this scheme to mark the names of computer files which have been modified but not (re-)printed.

It is legal to reserve (by specially marking) the first pages of the Engineering Notebook for an index, for key telephone numbers, etc. Some Engineering Notebooks are pre-marked with some of these useful items. While one may index the notebook after the journal is full, the authors find it more useful to keep a running index of important items as the notebook is being used.

Consider using backward and forward references to track items throughout the log. One of the authors places a page and section reference in upper left-hand corner of a section (size of a page or less) referring to the most recent previous entry on the same subject. In the bottom right hand corner, the author will enter the next reference to the same subject when it occurs. This entry is made when the upper left-hand corner cross reference of the new section is made.

**Styles**
There are many styles of engineering notebooks. The critical features of the Engineering Notebook have already been discussed. Bound notebooks come in many sizes, with different markings, and with and without pre-numbered pages. The notebooks without numbered pages must be immediately hand-numbered in ink to be acceptable as engineering notebooks. The two most popular sizes are 5 by 8 inches and the larger 9 by 11.5 inches. Both of the authors prefer the larger notebook format allowing more information (and full text sheets) on a single page over the smaller, easier to carry style.

**Potential Sources**

There are several vendors of acceptable notebooks. The following links are furnished as a convenience to the reader.

- [Scientific Notebook Company](#)
- [The BookFactory](#)