

# Engineering Laboratory (Record) Books

R0.1 04 October 2011

## **Motivation**

Most individuals naturally keep a written record of various aspects of a large project. Many engineering firms provide their employees with the means to record this information. This serves many purposes:

- meets a requirement for company to be eligible for ISO certification (e.g. ISO9001);
- provides a record of design decisions and their backup and/or source;
- provides a convenient place to record information;
- provides a tool for the company to pass your project to a colleague in the event of your departure;
- provides a set location to review this older information; and
- substantiates design decisions in the event of litigation.

## **Format**

All students (**each student in a group**) are asked to record project information in a hard cover laboratory notebook: one that cannot have pages removed (i.e. no coil-bound books or ones with perforated pages). If you have chosen a book that does not come with page numbers preprinted, please number the pages of the entire book. All entries in this book should be in pen.

You may use a lab book that is also used for other courses; however, ensure that there is a dedicated Capstone Design section. Please flag this section when submitting your lab book at the end of the term.

Leave no blank numbered pages in your book, and do not write on any unnumbered pages (for instance, you may choose to use only the front of pages, located on the right of the book, in which case you would number only those and *never* use the back). Fully use the numbered pages to make the insertion of new information on prior pages difficult.

While there seems to be a move toward electronic recording of the same information that you would include in a written lab book, the course has opted for the tried-and-true paper version.

Over the years, it has become apparent that there is a direct, strong correlation between a well-written lab book and a well-executed project.

## ***What Makes a Good Lab Book?***

Lab books are almost an educational tool. If you write the lab book such that a peer (or *you*, several years later) could gather project details, understand design decisions, how everything works, who made what decisions, and have a reasonable picture of how the project unfolded, then you are headed down the right path. This information, of course, would be with respect to the aspects of the project you are responsible for, the scope of which should be clearly defined.

Lab books can be verbose. Historically, several students who have done an excellent job (both in this aspect of evaluation and in the project itself) have filled an entire book and started a second.

It is important to be disciplined and make regular entries. Do not write project information on a scrap piece of paper; rather, use your lab book.

## ***Time Tracking***

Keeping an account of the amount of time you spend on a project is important. This information can be used in the future when you are asked by an employer to estimate the amount of time it will take to complete some, perhaps similar, task. Further, your project schedule, developed for the Critical Design Review, and maintained through to completion of the courses, is based on your time estimates. To improve your accuracy on this important part of project management, it is necessary to correlate your estimates with reality.

If you choose to record time in a tabular format in your lab book (rather than indicating the time with each entry), please **flag this page** so the evaluator will not miss it.

## ***Grading***

The rubric used to evaluate your lab book records is appended to this document. Course personnel will periodically make a mark in your lab book throughout the term in order to assist assessment of the regularity of the entries.

Please ensure

- entries are recorded in pen and legible;
- all pages are numbered;
- all entries are dated;
- appropriate information is recorded: meeting minutes, raw data, logs of activities and discussions, and decisions relevant to the project and its execution;
- records are kept up-to-date; and
- time spent on activities is recorded.

Please see the appended rubric for more information.

## ***Submission***

You are asked to turn in your lab book toward the end of the terms, on the date noted in the syllabus. These are usually collected in the lecture and returned approximately 1 week later via a box in the ECE general office. As indicated, above, course personnel will periodically (throughout the year) make a mark in your lab book to assist with assessment of entry regularity.

# Lab Book Evaluation

Current Revision **0.3** Revision Date: **January 25, 2011**

Criteria **N/A** **Score:** **Limited** **Level** **Adequate** **Proficient** **Excellent** **Ma**  
**0** **1** **2** **3**

Discipline/Presentation: 0.5 Weighting					
Numbering		No pages are numbered.			All pages are numbered.
Permanence		No entries are written in pen.			All entries are written in pen.
Timeline		No entries are dated.			All entries are dated.
Time Recording		No record of time spent on tasks is provided.			Time spent on logged activities is included.
Regularity of Entries		Entries are made irregularly.			Entries are made regularly in time.
Legibility		Illegible			All entries are legible

Content: 0.5 Weighting					
Information		There is a lack of recording of relevant information.			Information such as meeting minutes, raw data, and design decisions are included.
Volume/Detail		The amount of recorded information raises questions about the individual's level of involvement in the project. There is insufficient detail to orient a new project member.			The amount of recorded information indicates that the individual is obviously committed to the project. The lab book could be passed to a successor, and that person would have no problem getting up to speed.

Summary					
	Score	Max	Percentage	Weighting	Contribution
Discipline/Presentation	/			0.5	
Content	/			0.5	

**TOTAL:** %