Engineering Logbooks ver. 8/27/18

Definition: An engineering logbook is a personal/professional reference about project learning and results.

Rationale: The engineering logbook serves as a central resource for each team member in which they:

- *Document work process* – High performing individuals can learn and apply the best practices in their profession and learn from their successes and failures.
- *Document work product* – High performing individuals make their engineering results and conclusions defensible, repeatable, and transferable.
- *Track work hours* – High performing individuals monitor and control where they invest their time. Time tracking is also important for justifying time spent on project tasks.

General Expectations:

- glue-bound, page-numbered (suggest Esselte Item #09-9890 with brown cover or equivalent)
- typically about 5-6 pages of thoughtful entries per week in support of a quality design process
- log of planning, communications, team meetings (~15% of entries)
- log of project activities, learning, and development (~75% of entries)
- log of reviews or assessments of individual/team/product performance (~10% of entries)
- proper attribution of work – some entries will refer to work performed by others – if so, then indicate the author of the work
- organization/format for easy re-reading/re-use (by self, team, supervisor)
- bring to all meetings with supervisor/faculty advisor – may be signed at meetings by supervisor
- team submittals (e.g., assignments, test plans, reports) should, in general, ***not*** be included; when appropriate, excerpts from team submittals may be included – but your logbook must contain more than just excerpts from team submittals

Basic Procedures:

1. Record the date at the start of each entry; sign and date at the end of each entry. It is suggested but not required that you start each day on a new page.
2. LOG OF HOURS at end of logbook: Label each entry in your logbook and record this in a table near the end of your logbook. The table should have columns for entry label, date, & hours spent; reserve 3-4 pages at end.
3. Use ink. Do not erase. Delete an entry by neatly drawing a single line through it.
4. Do not remove pages, do not skip pages, both sides of each sheet should have content.
5. Chronological entries: Backdating is prohibited. If you realize later that you left something out, or just want to summarize something, go ahead and write it in, noting that it's after-the-fact.
6. Include *everything* you contribute … good, bad, and ugly.

Sketches/doodling	Customer needs/requirements	Evaluation of data/results
Meeting notes	Math calculations	Action Items
Half-baked Ideas	Design alternatives	Decision criteria
Work-in-progress	Research findings	Rationale for decisions
Datasheet excerpts	Datasheet analyses	Design process
Vendor notes	Sources of ideas	Project objectives
Design reviews	Project reflections	

7. Write an *executive summary* at the end of each quarter summarizing your contributions to the project that are documented in your logbook and that were made during that quarter. The summary must include page number references to your logbook that support your claims. Include the total number of hours you spent on the project during the quarter. This summary is entered into your logbook each quarter before submittal. In addition to pasting it into your logbook, email the electronic document containing your summary to your instructor, copying all of your teammates.

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Logbook Prompts:

If you just finished…	Ask yourself and record…
A meeting,	• What were the main outcomes of the meeting? • Was the meeting productive, and why? • What are your personal action items before the next meeting? • Is the team heading in the right direction?
Brainstorming,	• Which ideas seem most feasible, and why? • Are there enough good ideas? • How could better ideas be developed based on this session?
Engineering Analysis,	• What were the governing equations? • What were the most important findings? • What do the results mean and how should they be applied?
Visualization, (by hand or in CAD)	• What are the major features/discoveries and why are these significant? • What was learned about the problem or solution possibilities? • What problems were resolved and what still needs to be addressed? • How does this piece integrate with the whole?
An internet search	• What key information did I find? How does it help achieve the project objectives? • Are there other sources that should be pursued? • What new questions were generated?

Writing an executive summary:

A one or two paragraph Executive Summary is to be included. This Executive Summary should identify your individual contributions to the project during the term, as described on the previous page. If some contributions were made in conjunction with other team members then indicate so, identifying the other team member(s) who contributed. The Executive Summary should also include a brief overall status of the project.

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EE-407/8/9 Engineering Logbook Grading

Category	Below Adequate	Adequate	Above Adequate	Comments
Executive Summary **(in notebook and copied to team)**	☐	☐	☐	
1. Meeting notes: date, attendees, content	☐	☐	☐	
2. Work sessions: conclusions/summary; narrative description	☐	☐	☐	
3. Circuit diagrams; block diagrams; narrative description	☐	☐	☐	
4. Analytic/simulated calculations; summarize results	☐	☐	☐	
5. Component selection/specification data	☐	☐	☐	
6. Software: flowcharts, code examples; narrative description	☐	☐	☐	
7. Experimental results: test plan, data collected, summarize	☐	☐	☐	
Date all entries	☐	☐	☐	
Attribute all non-original work: other author, date, relevance (title, volume)	☐	☐	☐	
Ink, legibility, organization	☐	☐	☐	
Time log: tasks, date, hours spent	☐	☐	☐	
Overall *documented* individual contribution to project	☐	☐	☐	