ENGINEERING LOGBOOKS

Definition:
An engineering logbook is a personal/professional reference about project learning and results. To protect intellectual property in the workplace, it should be bound so that pages cannot be inserted/removed, written in ink, dated, and fill consecutive pages.

Rationale:
High performing individuals in all professions are similar to the extent that they monitor and control where they invest their time, they learn and apply the best practices their profession, and they regularly take time to learn from their successes and failures.

General Expectations:
- 5-6 pages of thoughtful entries per week in support of a quality design process
- log of planning, communications, team meetings, and lecture notes (~20% of entries)
- project learning and product development (~70% of entries)
- review of individual/team/product performance (~10% of entries)
- organization/format for easy re-reading/re-use (self, team, mentor, instructor)

Industry Expectations:
1. Record the date on each page. Start each day on a new page.
2. Label each entry and record this in a table of contents (reserve 3-4 pages at start).
3. Use ink. Do not erase. Delete an entry by neatly drawing a single line through it.
4. Do not remove pages, and do not skip pages.
5. Avoid backfilling. 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 to … good, bad, and ugly.

<table>
<thead>
<tr>
<th>Sketches/doodling</th>
<th>Customer needs/requirements</th>
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<tbody>
<tr>
<td>Class notes</td>
<td>Project objectives</td>
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<tr>
<td>Meeting notes</td>
<td>Action Items</td>
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<tr>
<td>Half-baked Ideas</td>
<td>Math calculations</td>
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<td>Work-in-progress</td>
<td>Design alternatives</td>
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<td>Vendor notes</td>
<td>Research findings</td>
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<td>Sources of ideas</td>
<td>Evaluation of data/results</td>
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<tr>
<td>Design reviews</td>
<td>Decision criteria</td>
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<tr>
<td>Design process</td>
<td>Rationale for decisions</td>
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<tr>
<td>Project reflections</td>
<td>Professional development</td>
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Logbook Prompts:

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<th>If you just finished…</th>
<th>Ask yourself…</th>
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| 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? |
LOGBOOK REVIEW FORM

Engineer: Reviewer: Date:

STEP 1: Inventory your six best logbook entries and rate each one using the rubric below.

<table>
<thead>
<tr>
<th>Entry</th>
<th>Date</th>
<th>Rating</th>
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1- Missing 2- Incomplete, minimal long-term value to author 3 – Complete, clear long-term value to author 4 – Exemplary, considerable long-term value to others

STEP 2: Self-assess your logbook in the areas below using the scales provided.

**Project Management** → overall rating for logbook since last review

- vague goals __
- multiple/divergent goals __
- focused & strategic goals __

- few action items __
- sequenced tasks __
- tasks remove bottlenecks __

- few team/client notes __
- some team/client notes __
- extensive team/client notes __

(in the context of ME 410, consider your client to be mentors, staff, and instructors)

**Design Development** → overall rating for logbook since last review

- sparse notes & analysis __
- relevant notes & analysis __
- detailed notes & analysis __

- random decisions __
- major decisions highlighted __
- key decisions justified __

- no illustrations __
- basic illustrations w/o discussion __
- detailed illustrations & discussion __

**Assessment (of self & team)** → overall rating for logbook since last review

- little reflection __
- occasional reflection __
- regular & effective reflection __

- little awareness of strengths __
- basic awareness of strengths __
- detailed knowledge of strengths __

- little awareness of improvements __
- some areas cited for improvement __
- detailed action plans for improvement __

**Organization** → overall rating for logbook since last review

- entries on demand __
- regular entries __
- spontaneous entries __

- entries without labels __
- entries with generic labels __
- entries with informative labels __

- haphazard layout __
- readable __
- thoughtful layout for rereading __

STEP 3: Paste this form in your logbook and make an entry examining the two greatest strengths and two greatest areas for improvement in your personal documentation. State why each strength as well as each improvement adds value. Explain how you might implement each improvement.