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>
</tr>
<tr>
<td>Meeting notes</td>
<td>Action Items</td>
</tr>
<tr>
<td>Half-baked Ideas</td>
<td>Math calculations</td>
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<tr>
<td>Work-in-progress</td>
<td>Design alternatives</td>
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<tr>
<td>Vendor notes</td>
<td>Research findings</td>
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<tr>
<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:

<table>
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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.