ENGINEERING LOGBOOK

INSTRUCTIONS. Purchase an engineering logbook (see details below) and begin making individual contributions to the team design process through reflective activities and logbook documentation.

Rationale for a Logbook.

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.

Definition of a Logbook.

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.

General Expectations for a Logbook

- 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 for a Logbook

- Record the date on each page; start each day on a new page
- Label each entry and record in a table of contents (reserve 4-5 pages at start)
- Use ink; do not erase; delete by neatly drawing a single line through it
- Do not remove pages, and do not skip pages
- Avoid backfilling; if you realize later that you left something out, or just want to summarize something, go ahead and write it in, noting it's after-the-fact
- Include *everything* you contribute to ... good, bad, and ugly.

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

Logbook Prompts:

If you just finished	Ask yourself		
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	• What are the major features/discoveries and why are		
(by hand or in CAD)	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 this information help achieve the project		
	objectives?		
	• Are there other sources that should be pursued?		
	What new questions were generated?		

LOGBOOK REVIEW FORM

Engineer: Date:	Reviewer: Date:	
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Step 1. Inventory your 6 best entries and rate each one using the rubric below.

1.Missing	2.Incomplete, minimal	3. Complete, clear long-	4.Ideal, huge	e long-
	long-term value	term value to <u>author</u>	term value to	o <u>others</u>
Entry		Date		Rating

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

Project Management. Overall rating for logbook since last review.

O 1 (worst)	02	Ο 3	O 4 (best)	
O missing goals	O vague goals	O divergent goals	O strategic goals	
O missing action items	O few action items	O sequenced tasks	O tasks remove bottlenecks	
O missing team/ client notes	O few team/ client notes	O some team/ client notes	O extensive team/client notes	
Design Development. Overall rating for logbook since last review.				
0 1 (worst)	02	Ο 3	O 4 (best)	
O missing notes & analysis	O sparse notes & analysis	O relevant notes & analysis	O detailed notes & analysis	
O missing decisions	O random decisions	O major decisions highlighted	o key decisions w/ justification	
o missing illustrations	O few illustrations	O basic illustrations w/o discussion	O full illustrations & discussion	
Assessment (of self & team) . Overall rating for logbook since last review				
O 1 (worst)	0 2	0 3	O 4 (best)	
O missing reflection	O little reflection	O occasional reflection	O regular & useful reflection	
missing O awareness of strengths	O little awareness of strengths	O basic knowledge of strengths	O detailed data of strengths	
o missing areas for improvements	O little areas cited for improvements	O some areas cited for improvements	O detailed plans for improvements	

Organization. Overall rating for logbook since last review.

0 1 (worst)	02	03	O 4 (best)
O missing entries	O entries on demand	O regular entries	O spontaneous entries
O missing entries and labels	o entries without labels	O entries with generic labels	O entries with informative labels
O ^{missing} any layout	O haphazard layout	O readable layout	O thoughtful layout for re-reading

Step 3. Paste this form in your logbook and make an entry examining the <u>two</u> <u>greatest strengths</u> and <u>two greatest areas for improvements</u>. State why each one adds value. Explain how you might implement each improvement.

Revised as of August 24, 2020