ELEC 390 – ENGINEERING LOGBOOK

This assessment aligns with the following course learning outcomes:

- **CLO 4:** Reflect on one's own and others' skills inventory and performance.
- **CLO 5:** Prepare engineering documents, including project proposal and final report.
- **CLO 6:** Develop documentation for the project planning, management, progress, and evaluation of the results.

Overview

Many practicing engineers maintain a record of their work, usually in the form of a logbook or a detailed diary of their day-to-day activities. The purpose of an engineering design logbook is to record your design decisions and document your processes as your project progresses. A logbook provides a chronological record of your decision-making and can include sketches, code snippets, and design changes so that you can reflect upon and provide details to clients and other interested parties when your design is complete. These records provide potentially valuable reference material for the engineer, the design team and the organization. Engineers also use logbooks to protect their intellectual property if your project is challenged legally or if you believe others have benefitted from your project.

For this course, we require you to keep a hardbound logbook of your design decisions that should include evidence of brainstorming, challenges faced, how you solved them, what did not work and why, and why you proceeded with your design decisions. Additionally, you should record reflections on yourself and the team regularly to help develop an understanding of your growth as an engineer, the dynamics of effective teamwork, and how the decisions you make impact the success of your project. Reflection allows you to critically evaluate your processes, identify areas for improvement, and carry forward lessons learned into future endeavours. We recommend that you always have your logbook when you are working as a team and record diligently at every session. You could rotate responsibilities for recording in the logbook, so that there is equity in the team when generating the logbook.

Logbook Format

Your team will need to purchase a notebook for use in this course. This logbook will be hardbound where pages cannot easily be torn out. Coil-bound notebooks and binders are not acceptable. The idea of using a hardbound logbook is to maintain the integrity of the notebook and prevent tampering. These notebooks are rather inexpensive ($5-20) and can be purchased from major retailers that carry office supplies (e.g., Amazon, Walmart, Staples, Indigo). These notebooks can

have blank, grid, or ruled pages. For example, the list below provides some examples of notebooks that adhere to these constraints and can be purchased from various retailers:

- Amazon:
  - https://www.amazon.ca/AmazonBasics-NH130210120V-S-Classic-Notebook-Squared/dp/B01DN8TEA2

- Walmart:
  - https://www.walmart.ca/en/ip/pengear-small-leatherette-freewriter-journal-black/6000199199484
  - https://www.walmart.ca/en/ip/cambridge-premium-hardcover-notebook-black/6000202682974

- Staples:
  - https://www.staples.ca/products/965583-en-blueline-a9-hard-cover-glue-bound-ruled-notebook-with-self-adhesive-tabs-96-sheets-9-14-x-7-14-black

- Indigo:
  - https://www.indigo.ca/en-ca/small-hardcover-linen-journal-black/882709954774.html
  - https://www.indigo.ca/en-ca/hardcover-small-journal-constellations/882709964292.html

Each team will need to include the following in their logbooks:

Cover Page (This can also be labelled on the front cover of the logbook)
- Title: clearly identifies the project
- Group number and all team member names
- Course code and title
- Date: when the project started

Entry
An entry in a logbook can be used to write down the topics, discussions, decisions and outcomes from a meeting, sketch out designs and ideas, reflect on skills and performance, or simply to jot down notes. There should be at least one entry per day where there is work done. An entry usually consists of:
- Date (and time if necessary)
- Team members present
- Description of the activity

Body of an Entry

Detailed descriptions of design activities, such as:

- Brainstorming ideas, sketches, and diagrams
- Calculations and mathematical models
- Notes on decisions, reasons, and alternatives considered
- Results of experiments, tests, and analyses
- Observations and reflections on progress and setbacks
- Meeting notes, action items, and assignments
- Signatures and Initials: Each entry should be signed or initialed by the person making the entry, and by any other relevant parties, to authenticate the information
- Brief weekly (50-100 words per person) reflection on individual and team performance, skills, learning, project progression, etc.
- Each entry should end with line to clearly delineate one entry from another

Written Information

- Use a pen, not a pencil, throughout the notebook to ensure integrity of the information presented.
- Write clearly and legibly. Any writing that is illegible cannot be marked.
- Corrections: draw a single, straight line through the material that is corrected and write the correction nearby. Initial the correction to maintain transparency. Do not ever use white-out or correction tape in a project logbook.

Sketches, Photos, Images, and Code Snippets

- Include any printed information with labels and refences where required.
- Attachments such as printouts, photos, or external documents can be glued or taped and must be signed, dated, and labeled clearly.

Supplementary Materials

- Additional materials (e.g., appendices, data sheets, or computer printouts) should be referenced with notes indicating where the supplementary material are located.

Submission Instructions

Logbooks will be submitted to your assigned Section Leader (TA) twice during the semester for grading and feedback:

- Week 6: Leave your logbooks with your assigned Section Leader (TA) at the end of the week's lab. They will be returned to you during your oral assessment in Week 7.
- Week 12: Leave your logbooks with your assigned Section Leader (TA) at the end of the week's lab. An announcement will be made on OnQ on where to pick up logbooks following marking.

Grading

This logbook is worth **10%** of your ELEC 390 final grade (5% per submission). See grading rubric for marking expectations.

Non-Compliance Penalties

- 25% per day late (i.e. per 24-hour period).
- Submissions more than 3 days late will not be assessed.
- Up to 20% deduction for not adhering to formatting requirements.

Grading Rubric

Dimension	Excellent (4)	Proficient (3)	Satisfactory (2)	Needs Improvement (1)	Unsatisfactory (0)
Reflection on Skills and Performance [CLO4]	Insightful reflection on personal and team skills. Comprehensive self-assessment and peer evaluation.	Strong reflection with adequate self-assessment and some peer evaluation.	Basic reflection with minimal self-assessment and little peer evaluation.	Limited reflection with no meaningful self-assessment or peer evaluation.	No reflection on skills provided.
Quality of Engineering Documents [CLO 5]	Logbook is clear, well-organized, comprehensive, and uses appropriate technical language.	Logbook is mostly clear and well-organized; minor issues in clarity or technical language.	Logbook is adequate but may be unclear or disorganized, with some missing elements.	Logbook is unclear, poorly organized, and lack several key elements.	Logbook is missing or inadequate.
Progress Monitoring and Evaluation [CLO6]	Regular, detailed progress updates with insightful evaluation and adaptive measures.	Regular updates with some evaluative insight and adaptation to challenges.	Progress updates are present but lack depth or are irregular; minimal evaluation.	Irregular or superficial updates; little to no evaluation or adaptation.	No progress updates or evaluations provided.
Presentation and Organization [CLO5][CLO6]	Logbook is exceptionally well-organized, visually appealing, and free from errors[1]; information flows logically.	Logbook is well-organized with minor issues in formatting or presentation; mostly error-free.	Logbook has a basic organization but may have several formatting errors or poor readability.	Logbook lacks clear organization, contains frequent errors, or lacks visual elements.	Logbook is poorly organized with numerous errors.

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[1] This mainly refers to errors in formatting. Errors in content are allowed as long as they are corrected as specified above – with a single, straight line and the correction nearby. Errors must be initialled.