

ENGM 178 and ENGG 390 Writing Guidelines

1. Introduction

This document provides general guidelines for writing the various reports that are required for the ENGM 178 and ENGG 390 project course. Report writing can be a significant challenge for students in 178 and 390 – this document is designed to make the process less mysterious. It provides basic advice on the three main aspects of writing:

- determining who your audience is
- developing a clear structure at both the macro-and micro-levels
- ensuring that your language is precise and correct.

2. Audience

The audience for all of your written reports in 178 and 390 is your course instructor and faculty advisor. In 390 you are encouraged to share your reports with your supervisors and colleagues on the job, they are not your primary audience. Therefore you must write in a manner that is understandable to your instructors, avoiding jargon and explaining technical terms that are not in common use. Also, for 390 you may need to provide industry, company, or project background that would be unnecessary if you were writing for your supervisor.

3. Structure

All effective writing is structured in ways that help the reader to understand your message. Structure applies at every level: from the outline to the individual sentence.

3.1 Macro structure

Macro structure involves the structure of the document *as a whole*. Your reader must be able to comprehend the overall structure at a glance, and must also know where he or she is within this overall structure at any point while reading.

Provide a one-page Executive Summary (for Interim and Final Reports) that contains the key points you want your audience to remember.

Provide a detailed outline or table of contents, and number consecutive sections in a logical manner.

Use headings and sub-headings that make stand-alone sense and are descriptive (e.g., “Expand Production Capacity” instead of “Recommendations”).

3.2 Micro structure

Micro structure refers to the organization of sections, paragraphs, and sentences. Just as the entire document must be structured, each component must also be structured.

Sections, if lengthy, should be divided into sub-sections with descriptive headings. Use different fonts (e.g., bold, italics) to readily distinguish levels of headings. Use sub-numbers to reinforce section structure (e.g., Section 3.1.1, Section 3.1.2, etc.).

Each section should follow smoothly from the previous section and flow smoothly into the subsequent section. Use transitional sentences or phrases to reinforce this structure.

Each paragraph should address one central issue. Generally, the first sentence should state the issue, subsequent sentences should offer support, and the last sentence should include a transition to the next paragraph.

Choose simple sentences over complex ones, but provide some variety. Favor concrete words over abstract words. Choose a direct statement over a nebulous one. And remember Strunk and White's timeless advice: "Omit needless words."

4. Language

Many technical reports are written in passive voice, presumably to remove the writer from the scene. For example, "Data on the performance of the device was collected." rather than "I collected data on the performance of the device." However, there are pitfalls to this approach. First, the passive voice is less direct and vigorous than the active voice and it can be wordy. Second, it can be difficult to determine who did what exactly when using the passive voice.

Remember that your 178 and 390 reports are professional reports about your work, not personal reports about you. Therefore, some degree of formality is appropriate and it is inappropriate to refer unnecessarily to yourself. However, in particular for 390 you must make clear when *you* performed work and when it was done by someone else or prior to your project. Occasional use of the pronoun "I" is permitted; alternatively, you can describe yourself as "the intern." When you use the passive voice make sure that you are not obscuring who did what. In 178, the team is accomplishing the activities and so the passive voice is entirely appropriate.

Avoid use of clichés, jargon (especially jargon from Six Sigma), or technical terms that are not in common use. Sentences such as this should be avoided: "Our product is the market-leader in the B2B space due to its world-class user-friendly interface." After all, "user-friendly" is a cliché (and therefore meaningless) when describing interfaces: no one describes their product as "user-unfriendly." "Market-leading" is another cliché; either provide concrete evidence of your market

position or avoid making an empty claim. “B2B” may be acceptable jargon among some business people but it is not among some engineers; consider your audience.

Technical terms should either be defined (in the text or in footnotes) or avoided in favor of descriptive terms in common use.

5. Requirements

File type

Save your documents in either .pdf or .docx format, as directed by your course instructor. When asked to revise a document, *return it to your instructor with the most recent changes clearly visible.*

Length

390 project Proposals are generally 2-5 pages. For both 178 and 390, Interim and Final Reports are limited to 15 pages exclusive of appendices. However, the overriding consideration is not the absolute length but whether the length is appropriate for what you have to say. Excessive length will reduce the report grade.

Appendices

Place back-up material that you believe is relevant to your audience in one or more appendices. All material in appendices should be clearly understandable without reference to the main text.

Executive Summary

Both Interim and Final Reports should have Executive Summaries. The Summary should capture all the main points of the report in a concise, telegraphic style.

Figures and Tables

All figures and tables that appear in the text must be referred to in the text and should appear as soon as possible after the reference. Figures and tables should be numbered consecutively and should have descriptive titles. Figures are numbered and named below the figure; tables are numbered and named above the table.

Font Size and Spacing

The font size in your written report should be 11 or 12 and the line spacing must be no less than 1.5 with 2.0 preferred.

Citations

Proper citation of information sources is required and this applies to all paraphrases, quotations, pictures, graphs, charts, etc.. This is a good ethical practice to follow in all writing.

References

Gary Blake and Robert W. Bly: *The Elements of Technical Writing*, Longman, 1993.

An indispensable guide to writing about technical subjects. Contains 50 essential rules for good writing (e.g., “Rule 25. Hyphenate two words compounded to form an adjective modifier.”). Also contains pithy advice on word choice, proposals, technical reports, and other subjects relevant to MEM 390 writing.

Mary Munter: *Guide to Managerial Communication* 9th edition, Prentice Hall, 2012.

A standard guide for business communication.

William Strunk and E.B. White, *Elements of Style*, 4th edition, Longman, 1999.

The classic. Fun to read and helpful too.