

Fundamental-3: Lab report conventions

Learning Objective

This module is designed to assist engineering instructors in strengthening lab instruction materials so that students can describe and apply the conventions of the lab report genre.

What are the conventions of the lab report genre?

Lab reports are an important communication genre for students addressing an audience expecting engineering language, styles, and conventions *commonly agreed upon* in the engineering community.

First-Person Narrative vs. Third-Person Narratives

Use the first person (“I” or “we”) is quite restricted in lab reports because writers themselves weren’t personally important to the procedure in the experiment. Someone else can produce the same results of the writer. This doesn’t mean students never use first-person in lab reports. When it is done by the writer(s) and unique enough so others cannot do, first-person narrative can improve the report.

Using the right tense in each section:

- **Introduction:** the present tense can be used to express general truths and atemporal facts (i.e. information about what the paper does or covers). The past tense can be used when describing the methods and results of previous studies.
- **Methods:** the past tense is used because the lab was happened in the past.
- **Results:** the past tense is used when describing the lab results that have already been completed. The present tense is appropriate when the writer refers to tables, figures, and graphs.
- **Discussion:** the past tense is used when summarizing findings. When interpreting the results and discussing them, the present tense should be used.
- **Conclusion:** the present tense is used to present the conclusions. The future tense can be used to make recommendations for future work.

[Click here for lab report example with the right tense.](#)

What conventions allow engineering lab reports to be effective communication tools?

- **White Space:** Use white space to guide the readers’ attention using headings, subheadings and visuals. It divides the report into small digestible groups of related information. It separates sections, headings, tables, and images from text. White space is used to improve document appearance, clarity, and emphasis.
- **Margins:** Right-justified text creates channels of white space and can be more difficult to read. Uneven right margins can be easier to read.
- **Page numbers:** Page numbers help the reader to navigate the reader.
- **Font choice and size:** Avoid using too many fonts. All body text should use the same font and same size. Font and size changes distract and annoy the reader. Headings and captions may use a different font and/or size from the body text.
- **Handwritten text and figures:** Handwritten text and figures are unprofessional in the 21st century. Use appropriate computer applications to create a report with a professional appearance.
- **Line Length:** Too-long lines tire the eyes and can annoy the reader. Ideal line length is 60 to 70 characters per line or 9 to 12 words per line.
- **Presenting Results:** In engineering lab reports, results are generally presented both textually and visually using graphs, tables, diagrams, charts, and photographs. Each figure and table should be captioned and numbered, and should be explained fully in the text, e.g. “Fig. 1 shows...”
- **Visuals such as Graphs, Tables, Diagrams, Charts, Photographs:** Use visuals in the ways the readers can easily understand. See [Module F-5: Data Presentation](#) for more details of presenting data in tables, graphs, and images.
- **References:** Outside sources referred to in the report should be cited in the Reference section of the report. There are multiple referencing styles (i.e. APA, IEEE, etc.); therefore, instructors should specify which style they expect from the students. Refer to [Module I-4: Referencing](#) for more details of referencing styles in engineering literature.

References

“Writing Engineering Reports”, Purdue University, Purdue Online Writing Lab, available:

https://owl.purdue.edu/owl/subject_specific_writing/writing_in_engineering/writing_engineering_reports.html

“Conventions of Technical Documents”, Scott Hale, University of Oklahoma, available:

<http://www.ou.edu/englhale/techdoc.ppt>