

ENGINEERING WRITING

Writing Excellence Studio @ Tech

Kinds of Writing

- Lab reports
- Journal articles
- Research papers
- Documentation/manuals
- Proposals
- Posters
- Presentations

Style/Tone

- Avoid personal pronouns
- Concise and objective
- Passive, but in a active way

Citations

- There is not ONE citation style for engineering. Check for professor's instructions or journal guidelines.
- Citation style needs to be consistent.
- Some examples: IEEE, ASCE
- Note: Citations are commonly numbered by order of appearance.

Structure

- Abstract = Short overview of purpose, methods, and results
 - Not a lot of detail except for the results
- IMRaD
 - Introduction: Shows motivation, purpose
 - Methods: Overview of research design
 - Results: Descriptions of findings
 - Uses a lot of tables and figures: Always explain figures and tables, never let them stand alone
 - Figures get labeled below, tables get labeled above
 - Discussion/Conclusion: Key conclusion, elaborate on findings, discusses trends - good and bad, post questions for future research
- Back matter: References, appendix, acknowledgements, footnotes, etc.

Lab Reports

- Could be either final and formal or weekly and informal
- Reports help documenting progress
- Citations may be implicit for internal use only

Design Reports

- A whole project report (from invention to end)
- Additionally includes proposal, customer response, etc.
- A lot bigger scope than a normal report

Helpful Resources

Book: Alley, Michael "The Craft of Scientific Writing"

Websites:

- **Penn State Writing Center:** <https://gwc.psu.edu/resources/>
- **Carnegie Mellon University Student Academic Success Center:** <https://www.cmu.edu/student-success/other-resources/index.html>
- **Writing as an Engineer or Scientist (PSU):**
<http://www.writing.engr.psu.edu/> or
<https://www.craftofscientificwriting.org/>
- **Writing in Engineering (Purdue):**
https://owl.purdue.edu/owl/subject_specific_writing/writing_in_engineering/index.html
- **LabWrite:** Improving Lab Reports (NC State):
<https://labwrite.ncsu.edu/Descriptive%20Labs/descript-help.htm>
- **Engineering Communication Program:** Online Handbook (Univ of Toronto): <https://ecp.engineering.utoronto.ca/resources/online-handbook/>