

Approaching your 6.111 Lab Report



Atissa Banuazizi (atissa@mit.edu)
Program in Writing and Humanistic Studies
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What do you as a reader/engineer expect from a design report?

1. What is it about?
2. An overview of design/tech specs.
3. Background to understand design.
4. Why certain design decisions were made.
5. Why you chose to design the device.
6. Info needed to replicate.
7. The testing strategy.

Goals for Laboratory 2 Report

Designing a Traffic Light Controller

- ❑ To describe your experimental work
 - What did you do?
 - How did you do it?
 - Why did you do it?
- ❑ To allow your design to be replicated
 - Consider your readers' needs:
 - ❑ concise language
 - ❑ ample description
 - ❑ clear organization
- ❑ To engage in a professional conversation
 - Others will learn from your problem-solving approach

Potential Pitfalls for Lab 2 Report

- Context is implied or unclear--What is the purpose of the device? Why should your reader care about your design?
- Reader is assumed to be an “insider” (e.g., “As Prof. Chandrakasan mentioned in lecture the other day....”).
- Relationship of information is unclear -- Author did not use headings and subheadings for visual organization.
- Conclusions/implications are not offered -- what did you learn from this design and what would you like other engineers to learn?
- Figures and tables are not anchored in the text (e.g., “See Figure 1”) and/or are not adequately titled or described.
- Abstract does not describe entire report (including conclusions).
- Title is not descriptive or compelling.

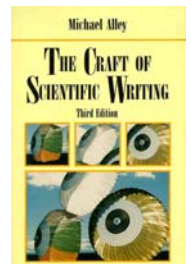
Use Section Hierarchies to Clarify Structure

Performance of the Solar One Receiver

Introduction
Steady State Efficiency
Average Efficiency
Start-Up Time
Operation Time
Operation During Cloud Transients
Panel Mechanical Supports Operation Time
Tube Leaks
Conclusion

Performance of the Solar One Receiver

Introduction
Receiver's Efficiency
 Steady State Efficiency
 Average Efficiency
Receiver's Operation Cycle
 Start-Up Time
 Operation Time
 Operation During Cloud Transients
Receiver's Mechanical Wear
 Panel Mechanical Supports
 Tube Leaks
Conclusion



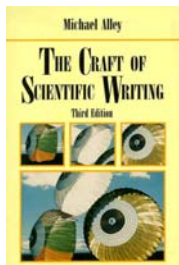
Section Headings Should Be Descriptive and Parallel

Non-Parallel Non-Descriptive

Introduction
Background
Marx Generators
Line Pulse
Beam Generation
Transporting Beam
Pellets
Results
Conclusion

Parallel Descriptive

Introduction
Past Designs for Particle Beam Fusion
New Design for Particle Beam Fusion
 Charging Marx Generators
 Forming Line Pulse
 Generating Particle Beam
 Transporting Particle Beam
 Irradiating Deuterium-Tritium Pellets
Results of New Design
Conclusions and Recommendations



Good MIT Resources

- Writing Center: web.mit.edu/writing
Offers feedback on organization and delivery of practice presentations
32-081 (Stata Basement); 617-253-3090
Appointment preferred but not required
- *Mayfield Handbook of Technical and Scientific Writing*
Available online at: <https://web.mit.edu/21.guide/www/home.htm>
(MIT certificates required)

6.111 Writing Resources

□ Handouts on 6.111 Web Site (under "General Handouts")

- *CI-M Report Guide*

- *CI-M Lecture Notes*

□ Writing Program Staff

- Atissa Banuazizi (atissa@mit.edu)

- Bill Haas (wjhaas@mit.edu)

- Mary Zoll (mzoll@mit.edu)