6.111 Writing Support
Spring 2004

Neal Lerner	Mary Zoll
nlerner@mit.edu	mzoll@mit.edu
617/452-2939	617/253-0650
68-150a	14N-233

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 reader's 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
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
Conclusions

**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
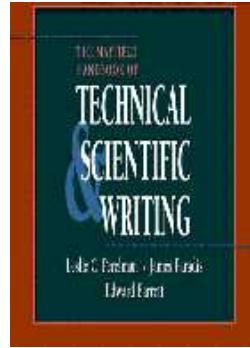
The Mayfield Guide On-Line
https://web.mit.edu/21.guide/www/home.htm (must have MIT certificates to access)

The MIT Writing and Communication Center
Room 14N-317; 617.235.3090
Appointment preferred but not required

6.111 Writing Resources

- *CI-M Report Guide* and *CI-M Lecture* notes on 6.111 Web Site (under "General Handouts")
- N. Lerner and M. Zoll
  - N. Lerner's office hours (68-150a)
    - Tue 3-5 p.m., Th 12-1 p.m.
  - M. Zoll hours by arrangement.