

ESE Senior Design Report Writing Guidelines 2009-2010

INSTRUCTOR TEAM:

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http://www.ese.upenn.edu/seniordesign/resources/Report_Guide_06Sep09.pdf

Why Style Guidelines for ESE Senior Design Written Reports?

- ◆ Style Guidelines are standards to support consistency in
 - ◆ Quality and clarity;
 - ◆ Ease of reading, editing and evaluation;
 - ◆ Uniformity (organization look and feel).
 - ◆ Consistency across many different authors and projects.
 - ◆ Continuity through years of publications.
- ◆ Companies specify style & format for Reports.
- ◆ Funding Agencies specify style & format for Proposals.
- ◆ Journals specify style & format for Articles.
- ◆ **Penalty for failure to adhere to style guidelines can be severe.**

ESE Senior Design Report Guidelines Presentation Overview

- ▶ Dynamic Set of Three (3) Written Reports
 - ▶ Basic Format Settings
 - ▶ Structure of the Three (3) Reports
 - ▶ Section 4: Strategic Plan
 - ▶ Section 5: Results
 - ▶ Style Guide
- ▶ Conclusion – Things to Think About

Dynamic Set of Three (3) Written Reports

- ▶ 1st Project Report - due November 13, 2009
 - ➔ Early draft of Phase 1 report.
- ▶ Phase 1 Report - due December 15, 2009
 - ➔ Holistic final Phase 1 report.
 - ➔ Convince instructors that the project merits support for Phase 2.
- ▶ Phase 2 Report - due early May 2010
 - ➔ Holistic final report for the project.
 - ➔ Convince instructors that all project goals from Phase 1 were achieved.

Basic Format Settings

- ◆ **Font:** Times New Roman
- ◆ **Size:** 12 point
- ◆ **Spacing:** Single Space
- ◆ **Margins:** One Inch (All Four Sides)
- ◆ **Pagination (page numbers):** Bottom of page & centered
- ◆ **Heading Length (Depth):** Four digits (layers), max.
(e.g. “Section 4.3.1.2
Model Design”)
- ◆ **Reference citations:** [Ref#]

Sections Required for Each Report

Sec. #	Section Title	1 st Project Rep.	Ph 1 Rep.	Ph 2 Rep.
	Title Page	X	X	X
	Abstract		X	X
	Table of Contents			X
1	Purpose and Scope	X	X	X
2	Introduction	X	X	X
3	Discussion of Previous Work	X	X	X
4	Strategic Plan / Structure	3 Exhibits; Schedule	6 Exhibits; Schedule	9 Exhibits; Schedule
5	Results	Preliminary (?)	Preliminary	X
6	Lessons Learned			X
7	Equipment/Fabrication/ Software Needs	X	X	X
8	Conclusions and Recommendations			X
9	Nomenclature	X	X	X
10	References	X	X	X
11	Bibliography	X	X	X
12	Financial Information	Preliminary	X	X
13	Ethics			X
14	Software Documentation		X	X
	Appendices			

Exhibits (graphs, drawings, photos, tables) divided between Sec. 4 & 5.

Abstract

- ★ Concise statement of project
 - ★ scope,
 - ★ objectives,
 - ★ accomplishments,
 - ★ major conclusions reached.
- ★ 250 words or less.
- ★ Capture the attention of readers.
- ★ Many examples on the ESE Senior Design website.

1.0 Purpose and Scope

- ◆ Relates the need and use for the project.
- ◆ State unambiguous, clearly defined and measurable goals (bulleted statements).
- ◆ Length: Usually less than 1 text page.

Title Page Content

(TOP)

Team #

University of Pennsylvania
School of Engineering and Applied Science
Department of Electrical and Systems Engineering

ESE Senior Design

Project Title (Bold Print, Larger Font)

Authors' Names and e-mail addresses (alphabetical order)

Date

Advisor's Name:

(BOTTOM)

1st Project Report

2.0 Introduction

- ★ Relates the subject and purpose of project.
- ★ Different from 1.0 Purpose and Scope:
 - ✦ Provides general background material & theory;
 - ✦ Provides rational for approach(s) taken from context of expected market or client;
 - ✦ Answers: Why is the project being done?
 - ✦ Relates technical and non-technical constraints.
- ★ Length: Usually about 1 text page.

3.0 Discussion of Previous Work

- ★ Describe and interpret previous work related to the project.
- ★ Relate how project extends, enhances previous work.
- ★ Most of early research will be for this section.
- ★ All sources must be properly referenced.
- ★ **Please be careful not to plagiarize!**
- ★ Length: usually 1 to 3 text pages.

4.0 Strategic Plan/Structure

- ★ Important section for “1st Project Report” and “Phase 1 Report”.
- ★ Includes
 - 4.1 Proposed System Approach
 - 4.2 System Specification
 - 4.3 Hardware and Software Requirements (as appropriate)
 - 4.4 Test and Demonstration
 - 4.5 Schedule (Excel or MS Project)
- ★ Use exhibits (“one picture is worth 1000 words”).
- ★ Length: usually about
 - ◆ 3 to 5 text pages for 1st Project Report.
 - ◆ Maybe expanded in Phase 1 Report.

5.0 Results

- ★ Explain what specifically was accomplished.
- ★ Present results in a progression that tracks the strategic plan.
- ★ DO NOT present a diary of all the twists and turns in the project (**boring!**).
- ★ Use exhibits.
- ★ Most important section in the “Phase 2 Report”.
- ★ Length: usually about
 - ★ 1 to 3 text pages for Phase 1 Report.
 - ★ 10 to 15 text pages for Phase 2 Report.

Writing Style Guide – Some Common Style Errors

- ★ **Use of the Word “Etc.”** The word “etc.” is unspecific and should be avoided.
- ★ **Use of the Word “First”** If the word “first” is used to introduce a series of actions or events, it should be followed by the words “next” or “second”.
- ★ **Humor or cute phrases** Do not use humorous, cute or personal statements in technical writing. Such content could be embarrassing to the authors.
- ★ **“This”** The word “this” should be used with caution. It must have a clear, direct reference when used as a pronoun or the reader will not know what “this” is.

Conclusion – Things to Think About

- ◆ Who are you writing your report for?
 - ◆ Course instructors;
 - ◆ Advisor;
 - ◆ Clients;
 - ◆ Peers and future seniors;
 - ◆ Future Penn students;
 - ◆ Potential employers.
- ◆ Many of your readers will have little or no familiarity with your project.
- ◆ You want all of your readers to “get it” or “learn something” from your report.