

Written Document Guidelines for PDR and CDR

EGR 107 Spring 2016

Lecture 4

Preliminary Design Review (PDR) Grading Rubric

Category	Possible	Earned	Comments
Abstract	5		
Table of Contents/Lists	5		
Introduction / Project Description/ Specifications	5		
Feasibility Criteria	5		
Merit Criteria and Curves	10		
Description and Drawings of Design Alternatives	15		
Feasibility Analysis	5		
Merit Analysis	10		
Explanation of Design Recommendation	15		
Preliminary Testing Plan	5		
Conclusions and Recommendations	5		
Other (Reference, Appendices, etc.)	5		
Writing Style/Grammar	5		
Organization	5		
Total:	100		

Critical Design Review (CDR)

Grading Rubric

Category	Possible	Earned	Comments
Abstract	5		
Cover Page, Table of Contents/Lists	5		
Introduction / Project Description	5		
Feasibility Criteria	5		
Merit Criteria and Merit Curves	15		
Description of Alternatives including Sketches of Alternatives	25		
Feasibility Analysis	5		
Merit Analysis	10		
Design Recommendation	10		
Testing Plan and Results	10		
Conclusions and Recommendations	5		
Writing Style/Grammar/ Organization/Quality.	10		
Total:	100		

Front Matter – should be completed last

- Cover Page...(see format guidelines for details) (NP)
- Table of Contents/Figures/Tables (NP)
 - Three separate tables
 - Let word do this for you!
- Abstract – more latter. You should write this last.

The **Abstract** summarizes the key information from every major section in the body of the report

- The informative abstract, provides information from the body of the report—specifically, the key facts and conclusions. To put it another way, this type of abstract summarizes the key information from every major section in the body of the report.
- It is as if someone had taken a yellow marker and highlighted all the key points in the body of the report then vacuumed them up into a one- or two-page document.
 - (Of course, then some editing and rewriting would be necessary to make the abstract readable.)

Requirements for the information abstract are as follows:

- Summarize the key facts, conclusions, and other important information in the body of the report.
- Equals about 10 percent of the length of a 10-page report: for example, an informative abstract for a 10-page report would be 1 page. This ratio stops after about 30 pages, however. For 50- or 60-page reports, the abstract should not go over 2 to 3 pages.
- Summarize the key information from each of the main sections of the report, and proportionately so (a 3-page section of a 10-page report ought to take up about 30 percent of the informative abstract).
- Phrase information in a very dense, compact way. Sentences are longer than normal and are crammed with information. The abstract tries to compact information down to that 10-percent level (or lower for longer reports). While it's expected that the writing in an informative abstract will be dense and heavily worded, do not omit normal words such as *the*, *a*, and *an*.

Things that don't belong in an abstract

- Omit introductory explanation, unless that is the focus of the main body of the report. Definitions and other background information are omitted if they are not the major focus of the report. The informative abstract is *not* an introduction to the subject matter of the report—and it is *not* an introduction!
- Omit citations for source borrowings. If you summarize information that you borrowed from other writers, you do *not* have to repeat the citation in the informative abstract (in other words, no brackets with source numbers and page numbers).
- Include key numerical & statistical detail. Don't sacrifice key numerical facts to make the informative abstract brief. One expects to see numerical data in an informative abstract.
- Omit descriptive-abstract phrasing. You should not see phrasing like this: "This report presents conclusions and recommendations from a survey done on grammar-checking software." Instead, the informative abstract presents the details of those conclusions and recommendations.
 - Based on an exhaustive review of currently available products, this report concludes that none of the available grammar-checking software products provides any useful function to writers.

Introduction/Project Description

- ***Introduction***

- The subject, problem definition, purpose, any background needed, scope, and forecast of the report's structure

- ***Project Description/Specifications***

- Can integrate into the Introduction
- Provide project specifications
 - Bulleted list often used to accent or summarize take home message from text

Design Criteria

- ***Feasibility Criteria***

- Often shown in a Table or Bulleted list that is supported with text

- ***Merit Criteria***

- Introduce (one at a time) merit criteria and how they are weighted, merit curves
 - Each merit curve must be discussed
- Each merit criterion must include a rationale/explanation
 - Why is this important, How will you measure it?
 - Why it was assigned given weight?

Description of Design Alternatives

- Each Design Alternative requires a sketch and explanation
- What will you write about each design?
 - Is design modeled after traditional bridge type?
 - Is design modeled after famous bridge?
 - Why you believe design alternative has merit?
 - Number of triangles
 - Predicted performance
 - Weight compared to other designs
 - Predicted force distribution, etc.

Feasibility Analysis

- Now that design options are described, you can conduct a feasibility analysis
 - Which of the design alternatives are feasible, which aren't
 - A table predicated by good written text can be a good approach

Merit Analysis

- Apply Merit Analysis to the feasible designs
 - Discuss each feasible design
 - A table summarizing M.A. results can work well here
 - There must be appropriate discussion to introduce and describe the important findings summarized in tabular form.

Design Recommendation

- Review results from Merit Analysis
- Select and Defend the 'best' design alternative
 - Which design is best?
 - Need a brief discussion of why

Test Plans and Results

- What tests did you conduct (what happened at the competition?)?
 - Bridge weight
 - Hold 1 kg
 - Bridge failure weight
 - Bridge efficiency (this is analysis)
- For K'nex project this will be more involved...stay tuned

Conclusions and Recommendations

- ***Conclusions*** - Brief overview of your selection and defense of the 'best design alternative'
 - Relate your conclusions to the original problem description
- ***Recommendations*** – present and discuss actions that future EGR 107 students should consider when designing a toothpick bridge

References??

- Have you used any reference material during this project?
- Should these be referenced?
- How to reference?
- Give credit to your sources!

Crediting sources gives an author or resource credit for original information

- Crediting sources in your paper includes two parts:
 - **In-Text Citations**: When you present information in the body of your paper, you briefly identify its source.
 - **Reference List**: On a separate page at the end of your paper, you write a detailed list of the sources cited in your paper.
- The in-text citations and reference list should credit the exact same sources.

Why credit sources?

- Acknowledge authors for their ideas
- Avoid plagiarism
- Increase credibility and transparency
- Join an ongoing academic discussion
- Become a part of a professional community

What should you source?

- Any information that you learned from another source including facts, statistics, opinions, theories, photographs, and charts
- Credit these sources when you mention their information in any way (quotations, summaries, paraphrases)
- **EXCEPTION:** Information that is common knowledge
 - Barack Obama is the president of the United States.
 - The declaration of independence was signed July 4, 1776.

In-Text Citation Format

- An in-text citation usually includes the following information:
 - **Author's last name** (no first name or initial)
 - **Publication date** (year only—even for electronic sources)
 - **Page number** (required for quotations; optional for paraphrases)
- The rest of the information about the source appears in the reference list.

In-Text Citation with Quotations

Author's name, year, and page number immediately following quotation

- *Genres* are “abstract, socially recognized ways of using language” (Hyland, 2003, p. 21).

Author's name in the sentence immediately followed by year. Page number immediately following quotation

- According to Hyland (2003), *genres* are “abstract, socially recognized ways of using language” (p. 354).

Reference List for Journal Article

- Four major parts: author, date, article title, and publication information (*periodical title, volume, number, and page number*)
 - Last name, first initial. (year). Title of article. *Title of publication*, volume, pages.

Tyson, P. A., & Gordon, M. G. (1998). The Psychology of women. *Journal of the American Psychoanalytic Association*, 46, 361-364.

Bernstein, B. J. Atomic diplomacy: Hiroshima and Nagasaki. *Diplomatic History*, 28(3), 126-129.

Writing a PDR or CDR is not...

- a trivial undertaking
 - It will take time
 - Don't start the night before it's due, or the night before that
 - Do not print it out an hour before class
 - Layout is important – refer to the formatting guidelines

And remember...

When writing a technical report...

No Storytelling!

Remove us, we, our, our team, the team, I, etc. from your technical writing

Questions or Comments?

- Remember
 - Bridge breaking Tuesday and Wednesday this week
 - Scales in EGC lobby