CS/EE 495 - Senior Project Phase I
Fall 2019 - Common Report Format

The sections of a common report format for both CS 495 and EE 495 are presented below. This will be approximately the same format for both the design proposal and the final report at the end of CS/EE 497.

Title Page
The title page should indicate the name of the project, (a list of) the project engineer(s) with the major program (electrical engineering, computer engineering, or computer science) of each, the project sponsor, the project advisor, the University name, and the date.

Abstract
An abstract is a one-paragraph summary of the report and appears on the title page.

Table of Contents
Give a list of (the titles of) the main sections and appendices of the proposal, a list of figures (number and caption), and a list of tables (number and title).

Introduction (or Summary)
Present a quick rundown of the entire design process: the motivation, problem statement, and design approach. By giving the reader a good, overall "big picture," you will vastly simplify their task of reading and understanding all that follows.

Problem Statement and Background
Give a more detailed statement of the problem as it was presented and as it has evolved to its current state in the design process. Include any technical discussions that help bring the problem into focus. It should be made clear why this project is interesting.

Requirements and Specifications
State the client requirements and specifications for the project. What is this project supposed to accomplish? What kinds of restrictions are/were in place?

Design Approach
Tell how you decided to attack the problem. Define the major tasks, their interrelationships, and the operations under them. Include the classes, methods, algorithms, schematics, etc., to be used in the various components of the overall task. Relevant technical discussions should be inserted as needed, but if they are too bulky or do not continue the flow of discussion, put them into appendices and cite accordingly. Diagrams are often useful.

For CS, conclude this section with a brief description of any alternate designs that you considered and explain why the final design was chosen.

Design Evaluation

The reader may wonder "so what?"; this concluding section should tell them. Explain how the project will meet the client requirements and specifications, and thus how it will solve the problem presented.

For EE/CoE, determine any applicable standards and list them, along with the other constraints (such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability) on the final design.

Statement of Work

Define in detail exactly what you are going to do, when you will do it, and what you will deliver. Differentiate between what will be done and what might be done. Make the contingencies explicit. Provide a table showing the schedule of dates for each task or milestone giving a short description and the amount of time expected for each task.

Costs

For the purposes of this proposal, only list the direct, non-labor costs. E.g., parts, equipment, software.

Capabilities

Give the qualifications of each developer or engineer as it pertains to the project. In particular, emphasize what experience you have had with the component tasks. State what facilities are being used and how they are adequate for the project.

References

Provide a complete list of all references cited in the report in a suitable format. A numbered list of references must be provided at the end of the paper. The list should be arranged in the order of citation in the text (not in alphabetical order). Use the format appropriate for your major field (IEEE for EE/CoE, ACM for CS); links available on course webpage.

Appendices

Extensive side discussions are packaged by topics in separate appendices. The order of presentation should follow the order in which they are cited in the main body of the report.

Notes on preparation

The prose in a technical report should follow standard English usage for this type of document. In particular, it should not be "folksy" in tone except in rare cases where such language would enhance the reader's understanding. Likewise, use of contractions and the second person pronoun ("you") generally is discouraged. The report should use technical vocabulary as appropriate, but also define them on first use.

A good outline is indispensable in turning out a coherent report; it will keep you from omitting things or repeating yourself. A detailed outline is especially valuable if you parcel out sections in a team project. A team report written in this manner will need to have one person do a final pass to make the style and vocabulary consistent.

When you have "completed" the report, it is helpful to put it aside for a few days and then read it in its entirety. Not only will you catch errors that were overlooked in proofing, but you may also become aware of omissions, redundancies, and obscurities. An "outside" reader – someone unfamiliar with the project – can provide another good check on clarity.

Formatting Requirements

- **File type:** An electronic version of the proposal must be submitted as a **PDF** file.
- **Title Page:** The title must be centered with at least a one and one-half inch margin on the left and right. Times New Roman typeface is required, bold faced, 14 point.
- **Author, Program, Sponsor, Advisor, University, and Date:** The author name and program, separated by a comma, should be centered below the title with two spaces between the two. If there are multiple authors, each author name and program should be on a separate line, single-spaced. After a blank line, the project sponsor name and affiliation, and project advisor name and affiliation should follow, single-spaced. Finally, another blankline, then the University name and the date of submission, single-spaced. There should be at least a one and a half inch margin on the left and right. Times New Roman typeface is required, bold faced, 12 point.
- **Abstract:** The abstract should be appear on the title page 2 inches below the title and author information with the heading word "ABSTRACT" above the abstract paragraph. Time New Roman typeface, plain, 12 point, one and a half in margin on left and right, one inch margin at the bottom, left justification, no paragraph indentation.
- **Page numbers:** DO NOT number the pages.
- **Header and footer:** DO NOT use a header or a footer in your paper. Leave these spaces blank, and they will be added later (in the final report for CS 497).
- **Body of the report:** The body of the report begins with the Introduction/Summary section starting on a new page. Subsequent sections optionally may start on a new page. There should be a 1 inch margin all around in one column format, left justification, no paragraph indentation, skipping one line between paragraphs. Times New Roman typeface is required, 12 point, using only standard symbols and abbreviations in text and illustrations.
- **Citations:** Citations should be in the form "[#]" where # is the number of the reference in the reference list. This notation is used both as a "footnote" citation for quoted and paraphrased information and as "noun" referring to the work referenced.
- **Headings:** Use headings for all major sections. They may be numbered or unnumbered. The headings should be left-justified in all uppercase using bold Times New Roman 12 point. Subsection headings should be left-justified in mixed case and in italics. If section headings are numbered, then the subsection headings should be subnumbered. E.g., the subsections of section 1 are numbered 1.1, 1.2, etc.
- **Figures and tables:** Figures and tables should be incorporated in the report text. All figures must be numbered consecutively and captioned. All tables must be numbered consecutively (but separately from the figures) and captioned. Figures and tables copied from other sources must have an appropriate reference citation at the end of the caption. All figures and tables must be referenced explicitly in the report body as "Figure X" or "Table Y".
- **References:** Reference list should follow the body of the paper with 4 blank lines between it and the last sentence of the paper. Times New Roman typeface is required, 10 point.
- **Appendices:** Appendices should start on a separate page after the references in the standard page format (Times New Roman, 12 point). Each appendix should have a section heading and should be lettered starting with 'A'. I.e., APPENDIX A, APPENDIX B, etc.