Zhejiang University/University of Illinois Urbana-Champaign Institute

Senior Design Report Guidelines

1. Objective:

The senior design report plays a crucial role in demonstrating students' readiness to enter the engineering profession or continue for graduate study in engineering areas. The guidelines aim to guide students on writing a senior design report based on the following objectives:

1) Document the work completed during the senior design project. The report serves as a record of the project completed and its outcomes.
2) Provide a detailed account of the problems or issues addressed, the methods and techniques used, and the results obtained.
3) Serve as a means of communicating the findings and recommendations of the project to stakeholders, including instructors, peers, industry professionals, and potential employers.
4) Serve to showcase the student's grasp of engineering principles and problem-solving techniques for real-world problems.

2. Documentation:

The senior design report is used to assess the student's learning outcomes, evaluate the effectiveness of the senior design curriculum, and provide feedback for continuous improvement. It is a critical component of the senior design project, and its quality and thoroughness can have a significant impact on the students' academic success, professional development, and future career development.

The senior design project is team-based, consisting of three or four students from different programs. Students are required to complete both a team report and an individual report.

1) **Team Report:** The team report is a collaborative document that is written by the entire team. It typically describes the project goals, methodology, results, and conclusions, and may include detailed technical information, diagrams, and data. It focuses on the project as a whole rather than on individual contributions.
2) **Individual Report:** The individual report is a document written separately by each team member. It can contain a summary of the entire project as in the team report, but it should focus on the individual's role in the project, their contributions to the project, as well as their learning and development over the course of the project.

3. Content:

A typical senior design report may include, but is not limited to, the following sections:

1) **Abstract**: a brief summary of the project, including the objectives, methodology, results, and conclusions.
2) **Introduction**: An overview of the project, including the problem statement, background information, and motivation for the project.
3) **Literature review**: A review of relevant literature, such as scientific papers, industry standards, or textbooks, to provide context and support for the project.
4) **Methodology**: A detailed description of the design process, including the design criteria, alternatives considered, design decisions, and justification for the final design.
5) **Results**: A presentation of the test data, analysis, and results, including any graphs, charts, tables, or images that support the findings and conclusions.
6) **Discussion**: An interpretation and analysis of the results, including a discussion of the strengths, weaknesses, limitations, and future directions of the project.
7) **Conclusion**: A summary of the main findings and conclusions of the project, including the implications for the field and any recommendations for future work.
8) **Reference**: A list of all references cited in the report.
9) **Appendices**: Supplementary materials, such as detailed calculations, drawings, schematics, or models, that support the project and its outcomes.

A detailed report template is available on the senior design project course website. Additional items, such as a commitment letter, assessment table, and defense record table are also included in the template.

4. Requirements:

The following provides details concerning the individual report.

1) **Format**: The team report and individual report must adhere to the technical and English format requirements of the final report of the senior design project.
2) **Pages**: The main body should not be less than 10 pages. Normally, the team report is longer than the individual report.
3) The individual report cannot be simply a copy of team report. However, it is possible that certain sections of the individual report will overlap with the team report, e.g., introduction, high level requirements, and project cost. To explain this in their individual report, students must include an explicit statement that this is a team-based group project and what sections / portions overlap with other students' individual reports.
4) Students must attend the final presentation and accept questions from the defense panel.
5) The deadline for final submission is May 23, which is the same as the final report of the course.

Final Presentation Guidelines

1. Participants

In addition to the ECE445/ME470 course instructors, experts, and professors from ZJU/ZJUI will be invited by ZJUI leadership to participate. All students in the course must attend.

2. Presentation

The team will present an overview of the group project and each member will present their individual contributions.

The advice below provides suggestions on how to conduct a successful final presentation that augment the ECE445/ME470 guidelines and requirements for the final presentation.

1) Prepare a clear and concise presentation that effectively communicates the key aspects of the project, including the problem statement, design criteria, methodology, results, and conclusions.
2) Practice the presentation several times before the actual presentation day to ensure that you are comfortable with the material and confident in your delivery.
3) Use slides to enhance the presentation and provide a clear visual representation of the project.
4) Allow time for questions and feedback from the audience.
5) Be prepared to discuss the strengths and weaknesses of the project.
6) Dress appropriately and be punctual.

3. Question and Answer Session:

The Final Presentation Q&A session is an important opportunity for students to showcase their knowledge, skills and understanding of the senior design project, and to engage in a productive discussion with the audience, which may consist of faculties, industry sponsors, peers, and others who are interested in the project.

The Q&A session may be moderated by the advisor or mentor, who may help to guide the discussion and ensure that all questions are addressed.

The final presentation committee members will ask questions and evaluate the team report as well as each of the individual reports.