

Zhejiang University/University of Illinois Urbana-Champaign Institute

Senior Design Individual Report

[REPORT TITLE]

By

Author Name: [NAME]

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Individual Report for Senior Design, [Spring 202X]

Major: [Electrical Engineering]

Grade: [2020]

Supervisor: [Faculty Name]

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Project No. xx

Senior Design Individual Report Checklist

Notes: Please filled out by the supervisor after the defense.

Author Name		Student ID		Supervisor	
Major & Grade		Tel.		Professional title of Supervisor	
Report title				Grade assessment	

Inspection Content	Evaluation (✓)	
	A	B
1. Title Page (using a unified title page, blue recommended)		
2. Commitment Statement		
3. Acknowledgement		
4. Abstract (150 words or less)		
5. Contents (with corresponding page numbers)		
6. Main body (page numbers start from this point)		
7. Reference		
8. Appendix (as needed)		
9. Author Resume		
10. Senior Design Report Task Assignment		
11. Senior Design Report Assessment Form		

Inspector:

Inspection Date:

Senior Design Individual Report

Commitment Statement

1. I solemnly promise that the Senior Design Individual Report submitted was completed in strict accordance with the relevant regulations of the institute and university under the guidance of the supervisor.
2. In my Senior Design Individual Report, except where specifically and explicitly indicated, the report does not contain results that have been published or written by others.
3. Any contribution to this report made by the teammates with whom I worked has been clearly stated in the report and acknowledged.
4. I promise that I have not falsified data or committed other similar acts in the completion of the Senior Design Individual Report.
5. If there is any infringement of intellectual property rights or breach of academic integrity in this Senior Design Individual Report, I shall bear the corresponding legal responsibility.
6. I fully understand that Zhejiang University has the right to retain and send copies and electronic records of this report to relevant departments or institutions. I authorize Zhejiang University to compile all or part of the contents of this report into a relevant database for retrieval and dissemination, and can use photocopying, microprinting or scanning and other means of reproduction to preserve and archive the report.

Author:

Date:

Supervisor:

Date:

Acknowledgement

Writing an acknowledgement section is a way to express your gratitude to individuals and organizations that have contributed to your project. Below are some tips on how to write an acknowledgement section:

Begin your acknowledgement section by expressing your gratitude to the individuals or organizations that have helped you with your project. This can include your faculty advisor, project sponsor, team members, family members, and friends.

Be specific about the contributions that each person or organization has made to your project. This can include providing technical guidance, financial support, or emotional support. It's important to keep your acknowledgement section concise. Try to limit your acknowledgements to one page or less. Keep in mind that your acknowledgement section is part of a formal report, so please use a professional tone and avoid overly casual language.

Abstract

The abstract is short (150 words or less) and provides enough of a summary of the report for the reader to decide whether to read the entire document. State very concisely what your device or system does, and the main findings and results of your project. Save background information (e.g., motivation, competitors) for the introduction and design details for the body of the report. Do not give an advertising pitch. Note that the abstract does not appear in the table of contents. (This achieved by stripping out the heading style.)

Note that you can ignore the TOC on next page because it is generated automatically. Work on the body of the report, then hit the Update tab on the TOC and voilà.

When you double-clicked “ECE 445 Template.dotx,” you opened a new, untitled document in Microsoft Word, which has the main components of your final report set up for you. Save the new document, replace the red text and bracketed section heads with your own, insert carefully prepared graphics, follow the guidelines document (“Preparing Your Final Report for ECE 445”), proofread and revise, and you’ll likely end up with a successful report.

Key words: xxxx, xxxx, xxxx

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1 Introduction

Provide a state-of-the-art and comprehensive literature review in your introduction. Starting with general information, briefly describe an overview of the context of your research background, defining the key concepts, relevant history, and previous work by others. Then narrow down to the specific literature, industry standards, or textbooks that correlate to your work and spotlight the motivation for the project. Highlight the addressed science or engineering problem, the utilized innovation method, and the purpose and usefulness of the device or system you have built. At Last, Summarize the contents of the upcoming chapters as well as the main conclusions of your project, to be elaborated in the last chapter.

All cited references[1] must be listed individually and direct cites from references should be avoided. Additionally, ensure that your reference is sufficient to support your research and demonstrate how it contributes to your work.

1.1 Section head

To create a section head, go to the Styles gallery under the Home tab and pick Heading 2. It automatically formats as above and creates a table of contents entry (after you click the Update tab). Word will not make the capitalization consistent; you have to do that yourself.

It is advisable to set out the general chapter headings in a meaningful way so that reading through them will clearly articulate this narrative.

Figure 1.1 is an example of figure and caption style. Table 1.1 is an example of table and table title style. A starter table for parts costs is in Chapter 4 of this template.

Use the References Insert Caption tool to generate consistently formatted captions (always below the figure), and use the grouping function in Word's drawing tools to hold figure and caption together. Use picture formatting tools to hold figures in place (preferably at top or bottom of page) and to define text wraps ("top and bottom" is best).

Use Word's table design and layout tools to format titles, column heads, and borders.

Insert page break at end of every chapter to ensure next chapter starts on new page.

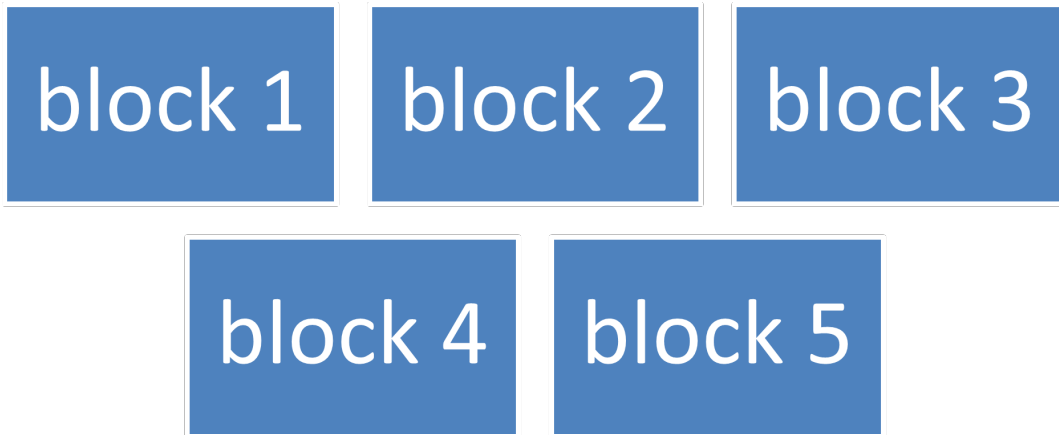


Figure 1.1: Example of placement and caption for a block diagram.

Table 1.1: Example of a Table and Its Title

Part	Electricity	Magnetism
Field intensity	E	H
Flux density	D	B
Constitutive factor	ε^b	μ^c

2 Design

Describe the design methodology clearly and in detail in this chapter, including principle introduction and analysis, the design criteria, alternatives considered, design decisions, and justification for the final design. Highlight the scientific rigor and accuracy of design methodology by introducing the basic principles and methods. In this context, it is necessary to list the equations, simulation methods, and general circuits. Additionally, describe the design in detail and address each major component of your design, including schematics with components, drawings, flowcharts, etc.

Any form of chapter division is acceptable as long as it accurately and clearly describes the design process. For instance, some teams may wish to split this chapter into two: Design Procedure and Design Details.

This template will not automatically update numbering systems for chapters, sections, figures, tables, etc., so keep track of them as you develop and revise the text.

2.1 [Component or Block]

To create a section head, go to the Styles gallery under the Home tab and pick Heading 2. It automatically formats as above and creates a table of contents entry (after you click the Update tab).

2.2 [Subcomponent or subblock]

To create a subsection head, go to the Styles gallery under the Home tab and pick Heading 3. It automatically formats as above and creates a table of contents entry (after you click the Update tab). Even lower level section heads can be created the same way, but they are likely unnecessary.

Following is a “template” for displayed math. Use the MathType extension of Word to generate your own content, and note the use of the invisible table (no borders) to keep the optional number flush right.

$$EQI = \sum_{i=1}^n W_j * r_{ij} \quad (2.1)$$

$$EHI = L_1 \times ESI + L_2 \times EQI \quad (2.2)$$

$$EE/EHI = \beta_0 + \beta_1 PCG + \beta_2 RGP + \cdots + \beta_i X_i + \cdots + \beta_9 ICWUR + \beta_{10} ECPG + \beta_{11} WCPG + \varepsilon_i \quad (2.3)$$

3 Design Verification

The chapter may contain the following sections or others of your choosing.

3.1 Result and Discussion

Results: A presentation of the test and analysis data, including any graphs, charts, tables, or images that support the findings and conclusions.

Discussion: Write your discussion section by carefully analyzing your results and interpreting their significance, including a discussion of the strengths, weaknesses, limitations, and future directions of the project. Supporting your discussion with relevant references is recommended.

3.1.1 [Subcomponent or subblock]

To create a subsection head, go to the Styles gallery under the Home tab and pick Heading 3. It automatically formats as above and creates a table of contents entry (after you click the Update tab). Even lower level section heads can be created the same way, but they are likely unnecessary.

3.2 Uncertainties

Analyze errors that may affect the accuracy and reliability of the design, highlighting the reliability of the design.

4 Conclusion and Future work

A summary of the main findings and conclusions of the project, including the implications for the field and any recommendations for future work.

4.1 Conclusion

Begin your conclusion section with a brief summary of your work, emphasizing the main achievements your work accomplishes.

4.2 Future Work

Recommendation for future work to improve existing designs.

References

- [1] J. Groeppelhaus. Java 5.7 tutorial: Design of a full adder, 2011. Class notes for ECE 290, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign.

Appendix A Requirement and Verification Table

An appendix is a good place for the Requirement and Verification Table from your design review. Below is a starter table. Including these details here will help to avoid lengthy and tedious narrative descriptions in the main text, which may not be of immediate interest to your imagined audience of company managers and professionals. Any requirement that is not verified should be explained either in the main text or the appendix. Note that both the pagination and the numbering of figures, tables, and equations continues from main text to appendices.

System Requirements and Verifications

Requirement	Verification	Verification Status (Y or N)
1. Requirement a. Subrequirement b. Subrequirement c. Subrequirement	1. Verification a. Subverification b. Subverification c. Subverification	
2. Requirement a. Subrequirement b. Subrequirement c. Subrequirement	2. Verification a. Subverification b. Subverification c. Subverification	
3. Requirement a. Subrequirement b. Subrequirement c. Subrequirement	3. Verification a. Subverification b. Subverification c. Subverification	