

[THESIS TITLE GOES HERE]

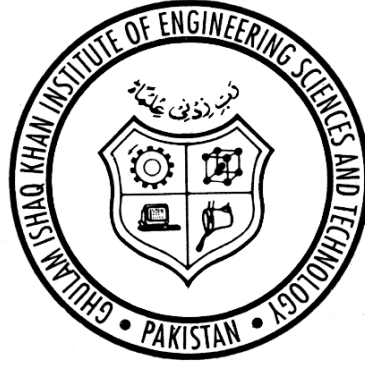


[Student Name Goes Here]
PhD Thesis

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology
[Full Name of Faculty E.g., Faculty of Computer Sciences and Engineering]
[MONTH YEAR of GRADUATION]

[THESIS TITLE GOES HERE]

PhD Thesis



[Student Name Goes Here]
Registration Number

In Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy (PhD) in
Computer Engineering

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology
[MONTH YEAR of GRADUATION]

Disclaimer

I hereby state that this thesis is my own unique work and has not been submitted to any institution for assessment purpose. To the best of my knowledge, this thesis contains no material previously published by other person expect for which the due acknowledgement has been made.

Signature

Scholar Name

DD- MM- YYYY

Dated

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It is certified that [Mr/Ms. Scholar Name] has completed his/her thesis entitled [Thesis title goes here] under my supervision. This thesis is found acceptable for the partial fulfilment of the requirements for the degree of **Doctor of Philosophy (PhD)** in **Computer Engineering**.

Signature

First Supervisor Name

Professor

Faculty of Computer Sciences and Engineering

GIK Institute, Topi, Swabi. **[Official stamp]**

In case there are more than one supervisor, similar kind of certificate on single page must be included for each supervisor signed by him/her.
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Dedication

[To the students of the GIK Institute]

This is the (optional) Dedication page. If your thesis contains a Dedication, it would replace the text above. The text should be centered both vertically and horizontally on the page and should be single-spaced. The Dedication page DOES NOT have a heading or a printed page number, but the page DOES count in the page numbering. Since the Dedication bears no heading or page number, it is not listed in the Table of Contents.

DELETE THIS INSTRUCTIONAL TEXT BOX BEFORE PRINTING.

DELETE THIS WHOLE PAGE IF YOUR ARE NOT INCLUDING A DEDICATION IN YOUR THESIS.

ACKNOWLEDGEMENTS

This is a big day of my life. I want to thank all those who contributed in my success. First of all, I want to thank my advisor Prof. Dr. XYZ, Professor of Computer Engineering, at GIK Institute for his support and help.

About **the page number** on this page:

Most often, the Acknowledgements will be page iv, but if you have no Dedication page or you have additional front matter, such as an Epilogue, you may have to change this page number.

To do so, double-click above the page number to edit the Footer area. Right-click the page number and click “Format page numbers...” and change the page number in the “Start at” box from iv to whatever number your Acknowledgements page is. Page numbering should continue correctly from there.

DELETE THIS INSTRUCTIONAL TEXT BOX BEFORE PRINTING.

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LIST OF TABLES

Table 1 – This table is provided as an example.

3

By utilizing Word’s “Insert Caption...” feature, you can easily build your List of Tables (this page) and List of Figures (following page). To streamline the formatting of the “List of Tables,” the label and number, caption, and page number appear in columns 1, 2, and 3, respectively, of the table above. If you cannot see the table gridlines, select the table, go to the “Layout” menu and select “View Gridlines.”

In the first column, you can insert the Label and Number of a Figure by using the “Cross-Reference” tool in the “References” menu. Click “Cross-reference,” select “Figure” or “Table” from the drop-down menu, and select the desired information to be included from the drop-down menu “Insert reference to:” In the second column, the corresponding figure caption should be inserted. In the final column, insert the page number.

To update all fields prior to submitting your document, simply select the table, right click the text, and select “Update Field.”

DELETE THIS INSTRUCTIONS TEXT BOX BEFORE PRINTING.

LIST OF FIGURES

Figure 1 – This is a figure.

2

LIST OF SYMBOLS AND ABBREVIATIONS

A the letter A

B the letter B

C the letter C

D the letter D

Note: Special Character must be at the end.

ABSTRACT

The technological advances in electronic and software have been rapidly assimilated by computer systems, demanding new approaches for software and systems engineering to provide reliable products, under well-known quality criteria. In this context, requirements engineering has a strategic role in project development. Problems in the elicitation activity contribute to producing poor, inadequate or even non-existent requirements that can cause mission losses, material or financial disasters, premature project termination or promote an organizational crisis. This thesis introduces the elicitation process for dependability goals, called ELICERE, applied to critical computer systems based on a goal-oriented requirement engineering technique, called i*, and the safety engineering techniques HAZOP and FMEA, which will be applied for the identification and analysis of operational risks of a system. After creating the system models using i* diagrams, they are analyzed through guidewords based on HAZOP and FMEA, from which goals related to dependability are extracted.

DELETE THE ABOVE TEXT BUT BE SURE TO RETAIN THE SPACING.

The Summary is the last of the Preliminary pages.

The Summary may have the same content as the doctoral Abstract but the format is different. The Abstract is an external document you prepare for GIK Institute. The Summary is part of the body of your work and so the Summary must have the same spacing as the body of the thesis (generally double-spaced).

DELETE THIS INSTRUCTIONAL TEXT BOX WHEN DONE.

CHAPTER 1.

CHAPTER 2. <HEADING LEVEL 1: BOLD, TIMES NEW ROMAN 14 >

2.1 Introduction <Heading Level 2: Bold Time New Roman 12>

English: UK English

Text of the Body: Times New Roman 12

Line Space: 1.5

Paragraph Space: Before 12: After 10

Paper Margin: Top: 0.8, Bottom: 1, Left: 1, Right: 0.8

Page Number: Centralized at the Bottom of the page with the page 1 starting from Chapter 1. The pages prior to chapter 1 (such as certificate, content list, abstract etc.,) will get roman page numbers centralized at the bottom of each pages

2.2 How to Use This Template [This is a First-Level Subheading]

The first-level subheading utilizes the “Heading 2” quick style. Using this style will include your first-level subheading in the Table of Contents. This template file has been set up to meet the formatting requirements for theses and dissertations given in the GIK Institute Graduate Thesis Manual. It's not magic, but it does get some of the confusing stuff taken care of: the margins are correct; the table of contents is formatted correctly; the necessary parts are in the right order; the page numbers will appear in the right place and in the right form; it has an acceptable font face and size. Further, Appendix A has a description of the scheme for subheadings you should use if your departmental style guide doesn't specify one.

2.2.1 *This is a Second-Level Subheading (Heading Level 3: Times New Roman 12, Italic)*

Second-level subheadings utilize Heading 3. It will be pretty obvious when you need to get rid of some text in this template. For example, this part of the introduction needs to go before you start typing. Easiest way to delete it is to click your cursor in front of the first paragraph, scroll

down to the last line in the chapter, hold the SHIFT key down, and click after the last letter. 'SHIFT-clicking' like this selects everything between the two clicks.

2.2.2 *Inserting and Numbering Equations*

To insert an equation to be referenced in the text, use the three-column table shown below. This table has been added to the “Auto Text” menu accessed through “INSERT” → “Quick Parts.” Equations are generally described and referenced in the text as is done in the following sentence. Equation 1 below describes the relationship between the need for a vacation, VAC_{need} , and the available time to take a vacation, t_{VAC} . The equation number (1) that appears in the table is a sequential field code which allows equation numbers to update automatically by right-clicking highlighted text and selecting “Update Field.” When adding an equation, select the number and bookmark it under the “INSERT” menu. When you reference the equation in the text (i.e. “Equation 1 describes something”) you can insert that bookmark so numbers will automatically update.

$$VAC_{need} = \frac{1}{t_{VAC}} \quad (1)$$

2.2.3 *Inserting, Numbering, and Referencing Figures*

When you insert an image into the text, it will look like Figure 1 below. In the previous sentence, a figure reference is inserted by cross-referencing the figure label and number (INSERT → Cross-reference → Reference Type: Figure → Select figure entry and choose Insert reference to: Only label and number).

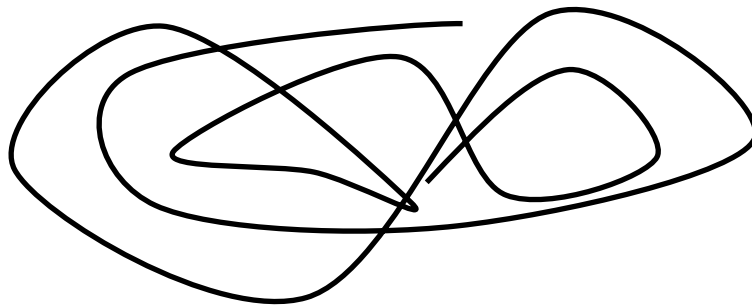


Figure 1 – This is a figure. The “caption” uses the “Caption” theme from the quick styles menu above and is added by right-clicking the figure and selecting “Insert Caption...”

2.2.4 *Inserting, Numbering, and Referencing Tables*

After a table is inserted, it must be captioned by selecting the Table and right clicking. Then click on “Insert caption...” The process is similar for captioning a figure except for the fact that a Table’s caption appears ABOVE the table as opposed to the figure caption appearing below a figure. An example of a table is given in Table 1 below. By inserting the cross-reference to the table (i.e. Table 1), the numbering will be done automatically.

Table 1 – This table is provided as an example.

A	B	C
1	5	9
2	6	10
3	7	11
4	8	12

2.2.5 *Things to be Careful of*

You can goof up the template. For example, when you delete the text on a page, be careful not to accidentally delete the marker, called a 'page break,' between the chapters or different types of pages. The page break marker makes your new chapter begin at the top of a page, no matter what editing you do before them. .If you delete a section break, related to a page break, you may lose any formatting that was particular to that page.

2.2.5.1 Using Tabs Correctly [This is a Third-Level Subheading]

When you put your headings into the Table of Contents, List of Tables, etc. things should line up pretty well *if you use tabs* to skip to the next column. If you use spaces to indent or move to the next column, you will have a mess. As spaces in most font families are not fixed in size, things won’t necessarily line up perfectly and you may be required to fix it. Moreover, when you use spaces rather than tab settings to determine placement of text, any change in words, fonts, or margins requires a great deal of work to reformat. If you use tab settings to control placement, making such changes becomes trivial.

Because of the way tabs are set, if a chapter title or section name in the Table of Contents is very short, you may have to put an extra tab character to get the cursor to jump correctly.

2.2.5.2 Using the Styles

The page and section heading styles have been set up as named styles in Word. The page headings in the preliminary pages (e.g. “Table of Contents”), each chapter heading (e.g. “Chapter 1: Introduction”), and the back page headings (e.g. “References”) all use a style called “Heading 1“. The first-level subheadings (example above) use a style called “Heading 2“. The second-level subheadings use a style called “Heading 3“. The third-level subheadings use a style called “Heading 4“. If you accidentally delete any of those headings, go to the Format/Style menu, select the appropriate style and “Apply“. If you cannot find the style under the list of styles, change the pull-down below it called “List” to “All styles“.

CHAPTER 3. SETTING UP A NEW CHAPTER

How do you begin a new chapter using this template? What must you do to get the page numbers to act correctly? Below are the steps for making a new chapter.

3.1 Moving to a New Chapter

To move to a new chapter, you must tell Word that you are moving on to a new page. You do this by inserting a page break. A page break forces the next line of text to appear at the top of a fresh page.

3.1.1 *How to Insert a Page Break*

1. Go to the end of a chapter. That means, put your cursor after the very last character of that chapter.
2. Hit **Return** to move to a new paragraph.
3. From the **Insert** menu, choose **Page Break**.

If you are in Outline View (see View menu), you'll see a dotted line across the screen. That marks the end of the previous page. If you are in Page Layout view, you'll just see the top of a new blank page.

Begin typing. If you are in Page Layout view, when you get to the end of the first page, your text will skip to the next page. A page number will appear at the bottom center of the new page. The number will be gray, and you can't edit it. That's OK; that is the way it's supposed to look on the screen.

APPENDIX A. DESCRIPTION OF DEFAULT SUBHEADING SCHEME

This appendix illustrates the default style of subheadings as described in the Graduate Studies Thesis Manual, available at <http://www.grad.gatech.edu/thesis>. Your department may have its own style guide and its own way of formatting subheadings. Whichever scheme you use, you must use it consistently throughout the document or the Graduate Thesis Office will require you to make revisions until it is acceptable.

The default format for chapter-level headings is bold, all upper case, and centered. Otherwise the font is the same font family and the same size or no more than 2 font points larger (e.g. 14 points vs. 12).

A.1 First-Level Subheading

The default format for first-level subheadings is left-justified, bold, and upper and lower case (UC/LC) . Alternatively, you may use plain (not bold), and all upper case (UC). The former of the two is built into this Word document. In either case, it should be the same size as the text font. If you use upper/lower case, capitalize words as you usually would in a title.

A blank line above the subheading has already been built into this template so it is not necessary to leave another blank line before headings so long as you are using the proscribed heading and subheading styles. Styles were discussed in Chapter 1 of this document.

A.1.1 Second-Level Subheadings

Second-level headings are also justified left. If the first-level subheading was UC/LC and bold, the second-level subheading will be UC/LC and *italicized*. That is the style built into this Word document.

Since a blank line above each subheading was built into this template, it is not necessary to leave another blank line before headings so long as you are use the proscribed subheading style.

A.1.1.1 Third-Level Subheadings

Third-level subheadings are plain UC/LC text and underlined. Capitalize as with the other subheadings.

A.1.1.1.1 Fourth-Level Subheadings

Fourth-level subheadings, if needed, should be plain UC/LC text, flush left.

REFERENCES

It is highly recommended that you use some sort of reference manager when using the Word template. Alternatively, you can use the reference functionality of the Microsoft Word

If your discipline utilizes a different display format (e.g. references listed at the end of each chapter), you may do so. But it is preferred that they all appear at the end of the document on this REFERENCES page.

REFERENCES STYLE SHOULD BE IEE

The thesis should follow IEE Style for references. Some examples as per IEE style are given below.