**REPUBLIC OF TURKEY**

**HASAN KALYONCU UNIVERSITY**

**FACULTY OF ENGINEERING**

**CIVIL ENGINEERING DEPARTMENT**



**GUIDE FOR PREPARATION OF GRADUATION THESIS**

**GAZİANTEP**

**2019**

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# CHAPTER 1

# INTRODUCTION

This guide is intended to provide appropriate standards of presentation in terms of all pertinent physical properties, including format, as well as paper and print quality of scientific Thesis prepared in the Faculty of Engineering in Hasan Kalyoncu University (HKU). This guide includes the general principles of presentation in a concise manner with examples.

These standards are Faculty of Engineering standards of Hasan Kalyoncu University (HKU) and are applied consistently to allthesis conducted in all graduate programs at HKU.

## 1.1 General Principles

It is important that you read and understand the guidelines presented here before the preparation of your thesis.

After preparation of thesis, supervisor submits this thesis with required document(s) to the head of department.

We will scan your thesis except reference section by use of **TURNITIN** program (your supervisor must send your thesis to before giving it’s hard copy to department**. This program gives result about the “similarity index” of your thesis. *Similarity index of your thesis must not exceed the 30% of full thesis except table of contents, list of figure, list of table, cover page and*** ***references***. Search result page must be signed by Faculty of Engineering member and Thesis Similarity Report Form must be filled and signed by candidate and supervisor(s). This form and search result page must be given to the Faculty of Engineering.

The reference number of your thesis will be used while giving name to the files. The content of the file will be added to the end of the reference number.

After the checking of thesis by Faculty of Engineering, candidate prepares and gives copies of thesis as the number of jury. Approved and signed thesis by the Jury members and the Head of Department provided to the Faculty of Engineering at the latest within 1 month from the date of the defense. Copies of signed thesis that are declared by Faculty of Engineering should be given into Faculty of Engineering.

One-page Abstract (English) and Özet (Turkish), at least 100 to 250-word written in Times New Roman 12 font size.

## 1.2 Classified Material

You may not use any information that is restricted or cannot be disseminated to the public in your thesis, because one of the primary intents of the thesis effort is to communicate the results of thesis authors' research to the scholarly community. The length of such a classified period is one year at most. However, it may successively be extended through a similar process each time.

## 1.3 Thesis Containing Potentially Patentable Information

If your thesis contains potentially patentable information, you may request a maximum duration of 90 days hold on the release of your thesis to the public. If this request is accepted by the Executive Committee of the Faculty of Engineering, your thesis will not be released to the public during this period. The hold period begins immediately after the official graduation date.

## 1.4 Referencing the Previous Work of Others and Plagiarism

You are responsible for acknowledging any facts, ideas, or materials of others that you include in your work. If you use any copyrighted material in the dissertation or thesis, it is your responsibility to give full credit to the author and publisher of work quoted. The acknowledgment should be placed in a footnote at the bottom of the first page of the paper or chapter.

If you have already published or had accepted for publication part of your own dissertation or thesis material in a journal, it is necessary to write to that journal and obtain written authorization to use the material in your dissertation.

Plagiarism is the using ideas and research findings of others, and yet pretending that they are your own which is not only immoral but also a **crime**. Therefore, great care must be given to using a proper style in writing your manuscript so that your original work and work of others are clearly distinguishable without any ambiguity, and that all ideas and work of others used in your study are meticulously referenced.

# 

# CHAPTER 2

# FORMATTING REQUIREMENTS

Every thesis must meet the same standards of presentation. The following guidelines are related to the general format of the thesis that you are going to prepare.

All thesis must be prepared electronically by using an appropriate processor (word or latex) and drawing software and they had to print with permanent black ink by appropriate printer (such as laser). Thesis has been written with a typewriter and dot-matrix printers are not accepted. Corrections made by hand or by typewriter and scrapings are not allowed throughout the thesis. The tables, figures, formulas and symbols must be created on computer. All the tables and figures must be cited in the text.

All thesis must be printed by using appropriate printers. ***If you are uncertain about the quality of your printer, bring a sample page to the Faculty of Engineering for review.*** All print must be in permanent black ink and must appear on one side of each page only.

## 2.1 Language

The thesis must be written with language of program.

## 2.2 Paper

Thesis must be printed on high quality white paper (at least 80 g/m2 weight, A4 size; 21 cm x 29.7 cm) and its copies should clear and readable. One copy must be single-sided that will be given to Faculty of Engineering, the other copies can be both sided.

## 2.3 Margins

The A4 page should have a left hand margin of 4 cm for binding and a right hand margin of 2.5 cm. Top and bottom margins should be 2.5 cm***.*** The text on each page

must be written in area that of 14.5 cm width, 24.7 cm height. Nothing should be come into view of margins. The first page of all parts (Contents, Abbreviations, Table, and Figure and Symbol Lists, Preamble, Summary, Chapters, References, Appendices, etc.) should be written 5 cm below from the top. There should be at least two lines of text under sub-heading at the end of page. Otherwise, the sub-heading should be written on a new page. A blank should be left between the paragraphs.

## 2.4 Fonts

For easily implementation of the general format declared in this guide, thesis should be typed by own personal computer using software like latex or Word. The font character and its size are given in Table 2.1.

The font requirements must be applied to all text including captions, footnotes, citations, etc. and they should be consistent throughout Thesis. The recommended font size is 12 point and font type is "Times New Roman". Smaller font size may be appropriate for footnotes, subscript, superscript or other material outside of the main text. In this case, all indices should be consistent and readable. A space should be left after the comma or the point in writing. Bold face letters, symbols, and italics may be used for special emphasis and foreign words.

## 2.5 Line Spacing

Line spacing given in Table 2.1. must be used in the distance between text (lines), title, paragraph of text, equations, figures and tables, etc.

The main text of the thesis (paragraph) must be prepared by 1.5 spacing exception of quotations as paragraphs, captions, lists, graphs, charts, footnotes/endnotes, bibliographic entries, items within tables, and lists in appendices. Quotations and footnotes may be single-spaced within each entry and lengthy tables may be single-spaced. Hyphenation should be used for long words, in order to prevent big spaces in the text when justified.

**Table 2.1**. Character size, line spacing and format

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Text Type** | **Fonts size** | **Line spacing** | **Front space** | **Back Space** | **Format** |
| Area (Illustration field) | 12 | 1 | 0 | 0 | ­ |
| Topics (Chapters) | 12 | 1.5 | 0 | 24 | **Bold** |
| Topics (Special Pages) | 12 | 1 | 0 | 12 | **Bold** |
| Topics (Illustrations) | 12 | 1 | 0 | 6 | Normal |
| Topics (Thesis Title) | 14 | 1 | 0 | 0 | **Bold** |
| Text (References) | 12 | 1 | 0 | 6 | Normal |
| Text (Custom Pages) | 12 | 1.5 | 0 | 6 | Normal |
| Text (Paragraph) | 12 | 1.5 | 0 | 12 | Normal |
| Text (Note / Footnote) | 10 | 1 | 0 | 0 | Normal |
| Text (Equations) | 10 – 12 | 1 | 0 | 12 | Normal |
| Text (Superscript/Subscript) | 8 – 10 | Invalid | Invalid | Invalid | Normal |

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## 2.6 Copies of Thesis

All copies must be made from the same original, and all pages must have a high contrast with consistently dark print throughout the thesis. The print must be permanent; it must not smudge. ***Inferior copies or copies not made on approved paper are not accepted****.* It is recommended that you work with a reputable copying firm or bindery when having your thesis reproduced.

## 2.7 Corrections

**No ink corrections, strikeovers, correction fluid**, **correction tape, paste-ups, insertions between lines, or letterset** are allowed on the final bound copies. If you must make corrections, make them on the original manuscript on the word processor program and then produce copies.

## 2.8 Page Numbers

All page numbers must appear in the bottom center of the page. In any case, page numbers must be at least two single spaces above or below the nearest line of text, but within the margin boundaries as stated above. The same numbering system must be used throughout the thesis. All page numbers must be in the same font and point size.

**Be careful! If you have any pages that are rotated to a landscape orientation, the page numbers should be in a consistent position throughout the document (as if it were printed and bound).**

The following pagination rules must be used:

* Do not count or number the title page, the approval (signature) page.
* The remaining preliminary pages may include an abstract, an öz, a table of contents, a dedication, preface, a list of figures, tables, symbols, illustrations, or photographs, acknowledgments. You must number these preliminary pages using lower case Roman numerals beginning with the number “i” and continue in sequence to the end of the preliminary pages (i, ii, iii, iv, v, etc.). (The required sections, recommended document order, and page number guidelines are present on Table 2.2)
* The main body of your text and your references also use Arabic numerals. Start the numbering of the main body with the number “1” and continue in sequence (1, 2, 3, etc.), numbering consecutively throughout the rest of the text, including illustrative materials and appendices.

## 2.9 Equations/Formulas

Mathematical equations, chemical formulas, and expressions must be prepared by using an appropriate editor. If a reference is made to them, they must carry a numerical identification. Each equation must be numbered in parenthesis and this must be given next to the right margin.

Line spacing, font type and size for equations and formulas are given in Table 2.1. Equations, in the relevant section must be given in an order for example (1.1), (1.2), ...., (2.1), (2.2), [If you need sub-expressions can be used as (1.1a), (1.1b)].

## 2.10 Quotations

For quotations, words in a foreign language, occasional emphasis, book titles, captions, and footnotes, you may use italics. A font different from that used for your basic manuscript may be used for appendices, charts, drawings, graphs, and tables. Short, direct prose quotations of three lines or less should be incorporated into the text, enclosed in double quotation marks. Prose quotations which exceed three lines should be set off from the text in single spacing and indented in its entirety at least four spaces from the left margin, with no quotation marks at the beginning or end.

**Table 2.2** Recommended document order and page numbers.

|  |  |
| --- | --- |
| **Section** | **Recommended numbering** |
| **Title page (required)**  Count page, but number not typed on page |  |
| **Copyright (required)**  Count page, but number not typed on page |  |
| **Approval page (required)**  Count page, but number not typed on page |  |
| **Declaration page (required)**  Count page, but number not typed on page |  |
| **Abstract (required)**  Count page, Type number on page | v (can be more than one page) |
| **Özet (required)**  Count page, Type number on page | vi (can be more than one page) |
| **Dedication (optional)**  Count page, Type number on page | vii (cannot be more than one page) |
| **Acknowledgements (required)**  Type number on page | viii (cannot be more than one page) |
| **Preface (optional)**  Type number on page | ix (can be more than one page) |
| **Table of contents (required)**  Type number(s) on page(s) | x (can be more than one page) |
| **List of tables (optional)**  If present, Type number(s) on page(s) | xi (can be more than one page) |
| **List of figures or list of illustration or list of schemes (optional)**  If present, Type number(s) on page(s) | xii (can be more than one page) |
| **List of symbols/abbreviations (optional)**  If present, Type number(s) on page(s) | xiii (can be more than one page) |
| **Main body of thesis,**   * **Text (required)** * **References (required)** * **Appendices (optional)** | Begin with page 1 |
| **Glossary (optional)** | Continue page numbering from body |
| **Index (optional)** | Continue page numbering from glossary |

## 2.11 Footnote and Endnote

Notes may be in the form of footnotes, placed at the bottom of each page, or endnotes, placed at the end of each chapter or at the end of the thesis before the bibliography.

Format for presentation for both footnotes and notes is given in Table 2.1.

Arabic numerals, asterisks or small letters should be used for footnotes and endnotes. In either case, the label used may appear either above the line or in parenThesis even with the line

## 2.12 Multiple Volumes

It is necessary to separate manuscript into the two or more volumes when your manuscript exceeds 5 cm in thickness. Each volume should be limited to 5cm in thickness. Each additional volume must contain a title page. You must number to each volume using capital Roman numerals. Volume numbers (Volume I, Volume II, etc.) are used only to differentiate the volumes by means they are not identical like title pages.

If thesis consists of two volumes, it is not required that you list “Volume II, Volume III, etc.” as a section in the table of contents.

## 2.13 Binding

Examples for cloths will be given to you from Faculty of Engineering, other cloths are not acceptable. A bound copy of the thesis should measure 215 by 285 mm.

# 

# CHAPTER 3

# SPECIFIC GUIDELINES FOR MAIN SECTION OF THE THESIS

Two general rules of thumb should govern the presentation of any thesis:

- keep the format as simple as possible, and

- be consistent with the format throughout the thesis.

A thesis consists of three main parts;

1. Preliminary Pages,
2. Text,
3. Reference Material.

You must follow the order of items within these parts as:

**PRELIMINARY PAGES**

* Title Page
* Copyright Page
* Approval Page
* Signed Declaration Page
* Abstract
* Özet
* Dedication
* Acknowledgments
* Preface
* Table of Contents
* List of Tables, Figures, and Illustrations
* List of Symbols and/or Abbreviations

**TEXT**

* Main text

**REFERENCE MATERIAL**

* References
* Appendices (must be placed after References)

**GLOSSARY**

**INDEX**

## 

## 3.1 Preliminary Pages

### **3.1.1 Title Page (Inner Cover Page)**

In the title page, words for the title of thesis should be selected carefully to represent the subject content as accurately as possible. Words in the title area are important access points to researchers who may use keyword searches to identify works in various subject areas. The title format is given in Table 2.1 that should be written using all capital letters, centered within the left and right margins, and should begin at 5 cm from the top of the page. If the title includes any chemical or mathematical formulas, symbols, or other non-standard abbreviations or character that cannot printed smoothly, such information must be substituted for words.

The format of the title page, including spacing and capitalization must be exactly as in the sample title page shown in Appendix B.

### **3.1.2 Copyright Page**

A copyright page is required for thesis. A notice of copyright should appear as the sole item on the page centered vertically and horizontally within the margins: ©20\_ [student’s registered name]. The date, which follows the copyright symbol, is the year of conferral of your degree. Your name follows the date. Please note that if you choose not to copyright your thesis, insert a blank page in this position.

A sample copyright page is provided in Appendix C.

### **3.1.3 Approval Page**

A sample approval page is provided in Appendix D. It is strongly recommended that the approval page of the thesis be signed in **blue ink**.

### **3.1.4** **Declaration Page**

This page includes the statement signed with blue ink by the author about plagiarism. A sample declaration page is provided in Appendix E. **Declaration page should not be listed in Table of Contents.**

### **3.1.5 Abstract**

As a page heading, “ABSTRACT” should be in all capital letters and centered on the page. A graduate thesis must be accompanied by an abstract, which gives an idea of the main elements of the thesis. The content of the abstract should state that purpose, results, important conclusion, recommendations and summarizing description of study. A good graduate thesis abstract begins with a one or two sentence summary of what was dealt with in the literature review. Next, it should contain a brief description of the experimental work, aims, and the main methods used. The bulk of the abstract, however, should deal with the results of the study, especially those which contribute to the aim of the study and which highlight new findings. The conclusion can be based on the results of the study or on the literature review. The abstract must be written in complete sentences, and it should be possible to understand the whole study from it. The abstract should not contain references or quotes or any information which is not included in the thesis itself. **The abstract usually does not exceed 250 words in length, and not exceed one page.** At the end of the abstract, the **keywords** must be added and it needs to be maximum 5 words and those words should be related with data base which is used on the scientific papers or works.

A sample abstract is provided in Appendix F.

### **3.1.6** **Özet**

As a page heading, “ÖZET” should be in all capital letters and centered on the page. Özet is the Turkish translation of the abstract.

A sample Özet is provided in Appendix G.

### **3.1.7 Dedication**

The dedication page is not required and can contain whatever text that you would like to include. The dedication should be brief and there is no any special need for the writing style and language.

A sample dedication is provided in Appendix H.

### **3.1.8 Acknowledgements**

As a page heading, “ACKNOWLEDGEMENT” should be in all capital letters and centered on the page. The acknowledgements may be written in first-person voice. Acknowledgement concludes by offering thanks to the supervisors and other colleagues who were involved in the work. Any kind of help can be acknowledgement. Notice that, if your research has been funded by outside grants, you should check with the principal investigator of the grant regarding proper acknowledgement of funding source. Most of the funding sources require some statement of acknowledgement of the support; some of them also require a disclaimer from responsibility for the results.

A sample Acknowledgement is provided in Appendix I.

### **3.1.9** **Preface**

As a page heading, “PREFACE” should be in all capital letters and centered on the page. The preface states the administrative background of the work, such as, what type of work it was (Master’s thesis, Doctoral thesis, literature review etc.), sponsor, initiator, place and time that the work was carried out in and the members of the supervisory group (supervisor, director etc.).

### **3.1.10** **Table of Contents**

“TABLE OF CONTENTS” should be in all capital letters and centered on the page, as a page heading. The tables of contents include title and page numbers of the principal divisions or sections/chapters of the body of thesis and subdivisions (Title page and copyright page are not listed).

The numbering and wording used in the Table of Contents must match the numbering and wording used throughout the text. The page numbers generally do not stated in a range, such as 4-18 and it is often single-spaced.

A sample table of contents is provided in Appendix J.

### **3.1.11 List of Tables, Figures, and Illustrations**

#### 3.1.11.1 Table of Content Format:

“LIST OF TABLES,” “LIST OF FIGURES” or “LIST OF ILLUSTRATIONS” should be in all capital letters. There should be separate pages for “LIST OF TABLES” “LIST OF FIGURES” or “LIST OF ILLUSTRATIONS”, even if there is only one example of table.

Each entry should have the same number and the same caption or title used for a table in the text, although a long caption may be abbreviated to the extent of using only the first full sentence. As in the table of contents, each entry must have leader dots which connect it to its page number.

A sample list of tables and figures is provided in Appendix K and L, respectively.

#### 3.1.11.2 Page Format

Tables, figures or illustrations are placed close to text. They may be placed on a page with no text above or below text. If a Tables, figures or illustrations are placed directly into the text, text may appear above or below the tables, figures or illustrations; no text may wrap around the tables, figures or illustrations.

A large number of tables should be given in appendices. Tables, figures or illustrations numbering should be either continuous throughout the thesis, or by chapter or appendix (e.g., Table 1.1, Table 1.2; Table A.1, A.2, etc.). The word “Table” “Figure” or “Illustration” should be spelled out (not abbreviated), and the first letter must be capitalized.

A caption for a figure or illustration should be placed at the bottom of the figure or illustration. But, a caption for a table must be placed above the table. The caption of a table, figure or illustration should be single-spaced. If necessary, explanatory footnotes are added to tables. The reference source of the information in the table or figure should be included in the title or footnote.

If a table, figure or illustration, not including the caption, takes up the one page, the table, figure or illustration caption should be placed alone on the previous page and centered vertically and horizontally within the margins (When the caption is on a separate page, the List of Figures or List of Illustrations or List of Tables can list the page number containing the caption).

If the table, figure or illustration, not including the caption, takes up more than two pages, it should be preceded by a page consisting of the caption only. The first page of the table, figure or illustration must contain the table, figure or illustration (no caption), and the second and subsequent pages must also include, at the top of the table, figure or illustration, words that indicate its continuance—for example, “Figure 5 (Continued)”—and on these pages the caption is omitted.

Horizontal tables, figures or illustration should be positioned correctly—i.e., the top of the tables, figures or illustration will be at the left margin of the vertical page of the thesis tables, figures or illustration headings or captions are placed with the same orientation as the table, figure or illustration when they are on the same page as the table, figure or illustration. When they are on a separate page, headings and captions are always placed in vertical orientation, in spite of the orientation of the figure/illustration/table. Page numbers are always placed as if the table, figure or illustration table was vertical on the page.

### **3.1.12** **List of Symbols and/or Abbreviations**

As a page heading, “LIST OF ABBREVIATIONS and/or SYMBOLS” should be in all capital letters and centered on the page. If included, you should follow a format consistent with acceptable practice in your discipline.

A sample list of symbols and abbreviations are provided in Appendix M.

## 3.2 The Text

The text, or the main body of a thesis, is consists of multiple chapters to help the reader in understanding the subject matter. The formatting of the text must be consistent throughout the thesis. All headings and subheadings should be presented in the same way in each chapter, in terms of capitalization, placement on type page and kind of type used.

Chapters are numbered consecutively in Arabic or Roman numerals and capital letters (CHAPTER 1, CHAPTER 2, etc., or CHAPTER I, CHAPTER II, etc.). In addition to general titles like INTRODUCTION, the chapters need short but substantially descriptive titles, as well.

Only new chapters should begin with a new page. Within a chapter, the presentation of subsections must be continuous; partially filled pages of text are acceptable only on non-textual pages, such as those presenting tables and illustrations.

The heading CHAPTER I in all capitals is centered between the text margins, 5 cm from the top of the page; the title goes two spaces below, centered, and in all capital letters. The text begins at least two spaces below. Line spacing is given in Table 2.1.

The main parts of the thesis are INTRODUCTION, LITERATURE REVIEW, MATERIALS AND METHODS, RESULTS AND DISCUSSION, CONCLUSIONS, and RECOMMENDATIONS (if necessary).

### **3.2.1 Introduction**

The introduction should describe the general research starting points and aims. The general background should be compact, brief and move quickly to the practical and theoretical research topic question. The introduction should briefly refer to a few central references so that the reader can get an overall sense of the research topic. It is normal that the same references used in the introduction will also be used in the literature review and discussion sections.

The objectives for the literature review and the practical part of the study are outlined in the last paragraph of the introduction section in a clear and accurate way, using the past tense. Experimental objectives are mentioned very briefly (these are presented in more detail at the start of the experimental section). The importance of objectives is worth stressing. It is also important to define the aims of the research, not only regarding the practical work, but for the progression of the writing. For these reasons, it is advisable to write the first draft of the introduction at an early stage of the study.

### **3.2.2** **The Preparation of the Literature Review**

The aim of the literature review is to identify a problem from the current theoretical background and possible solutions to this problem. The literature review section is normally divided into several subsections. For example, one could consider topics such as biological and chemical criteria, other practical applications and results and third available research methods. When looking at the topic of research interest, the author should consider the relevant literature to be used in order to have a deep scientific investigation allowing the phenomena to be examined on a scientific basis. How the author handles the research topic and how deep s/he delves into detail are important factors considered in the evaluation of the thesis.

The author often has to refresh the general knowledge on basic information regarding the topic of interest. This is done by reading general textbooks, so that s/he can understand the nature of research phenomena and be able to present the information in his own words and in a concise manner. This refreshing of the author’s general knowledge does not have to be included in the text.

When commencing a study, it may already be known that there is very little information available on a certain topic in a thesis. The literature review is used to describe the problem, then the underlying phenomenon of the properties of the research material and relevant research methods, and what kind of theoretical and practical solutions exist in the literature.

Important publications relating to the topic of interest should be obtained, read and presented clearly. Potential costs of procurement of publications must be discussed with the steering group. If a review article is used as a reference in the Literature Review, it is worth remembering that it may be written from a particular viewpoint, which is often subjective. However, there may be conclusions surmised in the review article from the original scientific articles, which are not mentioned in the original articles.

Literature Review is crucial to use time to carefully write the Literature Review in the past tense as this often leads to more precise expression. If the author is making general conclusions about information which is already known and accepted or stating natural laws, definitions or equations, the present and past may be used. The Literature Review should be regularly updated as the research work progresses and as experimental results are generated.

The author should approach the research from his own viewpoint, thus preventing the use of someone else’s ideas. Presenting someone else’s text, or parts of it, as your own is plagiarism and is strictly prohibited. Direct quotations are rarely used, but in the case of definitions, it is wise to use the exact wording. Caution must be practiced when using direct quotes, they should be between quotation marks and the reference must be given.

### **3.2.3 Material and Methods**

Research materials and methods used should be carefully described. The origin and manufacturers of the materials and reagents, as well as the production batch number (in some cases) should be presented. Often, basic analysis (e.g. determination of moisture or protein content) may need to be undertaken to classify materials or as preliminary tests. This information is more suited to the Materials and Methods section, say than the Results section, in order to allow other sections to be made clear.

Methods described in detail in international scientific journals can be referenced in the Materials and Methods section. However, methods used in the thesis, which were developed as part of the work or were techniques for new applications need to be described in detail. The level of detail should be such that the same method can be used by others in the future and referred back to the Materials and Methods section. In preparation of describing methods in this section, descriptions should be discussed with instructors or supervisors.

### **3.2.4 Presentation of Results**

The results and discussion are presented as separate chapters in the thesis. This increases the clarity and emphasizes the discussion. The results of the study are presented both in words and in tables or figures. The same information should not be displayed as both a table and a figure. Your own evaluation of the results and comparisons between them is made in the Results section. The Discussion section should contain a comparison of the results obtained with existing results from other studies, an evaluation of the results and should assess the reliability of the measurement methods.

The reader should not be forced to ’believe’ the results shown, only on the basis of the claim made, but by demonstrating those to him by the factual data and figures. It is often a good idea to begin by briefly stating the basic findings which should show, amongst other things, that the results are in the correct order of magnitude and hence the accuracy of the measuring data. After this should be preceded to the new results of the study, comparing different findings and methods and present the findings in a strong manner showing how they meet the stated objectives of the research questions and how they support or refute the hypothesis. Another way is to present the key results of your own work which are of a particular novel value. Again, the reader is presented with the facts, and only the facts. The results shown cannot be embellished, but they neither should be underestimated.

### **3.2.5 Discussion**

The Discussion section is the author’s ’debate’ about the importance of the received results and the relation to previous knowledge. The Discussion is the most important section of the thesis and at the same time the most challenging. It shows the author’s mastery of the subject. The depth and clarity of the Discussion are the criteria which weigh the value of the thesis. The results and stated aims should be examined, as well as, previously published studies and other sources of reliable information. The results are compared to previously published results, the differences are discussed and the reliability of the methods is examined. References already used in the Introduction and Literature Review sections are used again in the Discussion. The reader should get a clear picture of how the results agree with previously known results, how the author estimates the reliability of their results and their ability to explain the phenomena under investigation. Sometimes perspectives and information, which are not exactly from the author’s field, need to be included in the Discussion.

It is also the function of the Discussion section to interpret what the results mean and what about them is new or novel. The new results can be first highlighted and then the meaning and significance of the results can be described. The Discussion can also present new hypothesis or interpretations, which are logical and based on the results of earlier knowledge. They also need to set out clearly the author’s thoughts.

The legibility and clarity of the text benefits from the use of relations, for example, the expressions “as expected”, “in contrast”, “similarly”, “while” and “however” to demonstrate the main findings and ideas and their relationships: to what is a phenomenon due, what is the result, what preceded it, what followed it, was it expected or not? The clarity can also be improved by the use of sentences or paragraphs which summarize information at the end of the Discussion. The Discussion will support the conclusions to be drawn from the study.

### **3.2.6 Conclusion**

The final chapter of the thesis presents the key findings or conclusions. Many readers immediately read the conclusions if they become interested after reading the thesis title. The conclusion should answer the questions posed in the Aims section and be based on the findings from the work. In fact, the same conclusions have already been presented earlier in the Discussion section, but they are now grouped and summarized, perhaps in different words than before. When the conclusions are based on literary investigation (i.e. in Bachelor’s thesis) this must be clearly highlighted. The Conclusion should also recommend ideas for possible future research on how to further solve the problems posed.

## 3.3 The Reference Material

The reference material consists of a references which is required, and appendices which are optional for your thesis. As a page heading, “REFERENCES” and “APPENDIX” should be in all capital letters, centered on the page.

### **3.3.1 References**

A reference is a selected list of all books, articles, and other source material related to the thesis research and is always in alphabetical order, with the author's last name first. The references to the publications of other authors should be undertaken accurately and carefully for both copyright and ethical reasons. **Each source must be referred in the thesis in “References” section.**

In some disciplines it is customary to list all of the references at the end of the thesis in a section headed “References”.

References in the text should include the author’s name and year of publication, for example: “according to Koç (2003)”, Bedir (2003) found” or “(Bozkurt, 2003, 2005)” (note the reference to two different publications from the same author in different years). When there are two authors, both surnames and the year of publication are given, e.g. “Fox and Rudnik (2000)”, “(Fox and Rudnik, 2000)” or “(Fox and Rudnik, 2004a, b)” (note the reference to two different papers by the same authors in the same year). When there are three or more authors, only the first author’s surname is mentioned, followed by et al., e.g. “Brisaw et al. (2002)” or “(Brisaw et al., 2002)”. If several publications are referred to in the same sentence, they are presented in chronological order, separated by semicolons, “(Fox and Rudnik, 2000; Brisaw et al., 2007)”.

Standard methods or authorities can be referenced in the text in the same manner as individuals, e.g. “(AOAC, 1995)”. The standard method number should be mentioned in the text, e.g. “AACC Method 86-47 (AACC, 2000) was used”.

Internet references are not favoured in scientific text due to the uncertainty associated with their source. In this case, the web address or page number of the official journal can be provided in the References section. Internet references should be placed in the References section showing the full web address and the date of access.

The references may be given at the end of each chapter instead of at the end of thesis, in certain scientific and engineering disciplines. It is not necessary to give a chapter number, but it must have page numbers written in the same font and point size used for pagination throughout the thesis.

**REFERENCES STYLE**

**Journal articles and review articles:**

Author(s). (Year). Title of article, *Journal name (neither* ***bold*** *nor underlined)*, **Volume number (Issue Number: if present)**, page numbers.

Brannan, G. L., Koehler, P. E., Ware, G. O. (1999). Physicochemical and sensory characteristics of defatted roasted peanuts during storage, *Peanut Science,* **26**, 44–53.

Kulisic, T., Radonic, A., Katalinic, V., Milos, M. (2004). Use of different methods for testing antioxidative activity of oregano essential oil, *Food Chemistry,* **85**, 633–640.

Perry, N., Court, G., Bidet, N., Court, J., Perry, E.(1996). European herbs with cholinergic activities: potential in dementia therapy, *International Journal of Geriatry Psychiatry,* **11**, 1063–1069.

Sökmen M., Serkedjieva J., Daferera D., Gulluce M., Polissiou M., Tepe B., Akpulat HA., Sahin F., Sökmen A. (2004). The in vitro antioxidant, antimicrobial and antiviral activities of the essential oil and various extracts from herbal parts and callus cultures of Origanum acutidens, *Journal of Agricultural Food Chemistry,* **52**, 3309-3312.

Steinmetz, K. A., Potter, J. D. (1996). Vegetables, fruit, and canser prevention: a review, *Journal of American Dietetic Association,* **96**, 1027-1039.

**Books:**

Author(s). (Year). Title of book. Volume number (if present): Edition. Place of publication: Publisher.

Bell, LN, Labuza, TP. (2000). Moisture sorption: practical aspects of isotherm measurement and use. 2nd edition. St. Paul, Minnesota: American Association of Cereal Chemists.

Lawless, HT, Heymann, H. (1999). Sensory evaluation of food. Principles and practices. Gaithersburg: Aspen.

MacFie, HJH, (2007). Consumer-led food product development. Cambridge: Woodhead.

Roos, YH. (1995). Phase transitions in foods. San Diego, California: Academic Press, Inc. 360 p.

**Examples of References to Official Organisations:**

AACC. American Association of Cereal Chemists. (2000). AACC method 86-47. Total folate in cereal products – microbiological assay using trienzyme extraction. In: Approved methods of the American Assn. of Cereal Chemists. 10. p. St. Paul, Minnesota.

AOAC. Association of Official Analytical Chemists. (1995). Official method of analysis. 15. p. Washington, D.C.

AOCS. American Oil Chemists’ Society. (1987). Official and tentative methods of the American Oil Chemists’ Society Am Oil Chem Soc, BS 684:1.5.

ASTM. American Society for Testing and Materials. (1998). Standard test method for tensile properties of thin plastic sheeting. D882–97. West Conshohocken, PA.

European Community Regulation 2568/91. (1991). Official Journal of European Community, L. 248/1-83. Available at: http://www.health.gov.mt/fsc/fsc\_euleg\_files/RegEC2568\_1991e.pdf

**Examples of Internet References:**

AOAC. Association of Official Analytical Chemists. 1998. AOAC peer verified methods program. Manual on policies and procedures. AOAC Intl. Available at: www.aoac.org. Accessed 17.05.2010.

European Parliament and Council Regulation (EC) No 258/97. 1997. Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31997R0258:EN:NOT Accessed 17.05.2010.

### **3.3.2 Appendices**

As a page heading, “APPENDIX” should be in all capital letters and centered on the page. Author may use appendices if she/he wants to present some additional materials but keep the main text free of such details. For example, an appendix may contain raw data, forms, detailed apparatus description, computer programs, detailed charts, questionnaires, etc.

* + If the information to be appended requires more than one appendix, each should be given a letter (Appendix A, Appendix B, etc.). The heading APPENDIX should appear centered between the text margins, 5 cm from the top of the page. Line spacing, font type and size should be same as those used for chapter titles.
  + Line spacing need not be the same for each of the appendices. Documents and case studies may be single-spaced, whereas line spacing for the explanations of methods and procedures may be similar to that of the text.
  + Each appendix with its title must be listed separately in the table of contents as a subdivision under the heading APPENDICES.
  + All appendices must have page numbers written in the same font and point size used for pagination throughout the thesis.

# CHAPTER 4

# GLOSSARY

A glossary is not required for a thesis. If included, best practices and historic precedent suggest sing a page heading, use “GLOSSARY”, in all capital letters, centered on the page.

# CHAPTER 5

# INDEX

A index is not required for a thesis. If included, best practices and historic precedent suggest sing a page heading, use “INDEX”, in all capital letters, centered on the page.

# 

# APPENDIX

## Appendix A: Sample Front Cover and Spine

**MAY** **2XXX**

**HASAN KALYONCU UNIVERSITY**

**FACULTY OF ENGINEERING**

**ELECTRICAL & ELECTRONICS DEPARTMENT**

**Graduation Thesis in Electrical & Electronics Department**

**DEVELOPING A NEW LINEAR INDUCTION MOTOR DRIVE WITH Z-SOURCEINVERTER USING A DSP**

**GRADUATION THESIS**

**IN**

**ELECTRICAL AND ELECTRONICS ENGINEERING**

**BERRİN SÜSLÜOĞLU**

**BY**

**BERRİN SÜSLÜOĞLU**

**MAY 2XXX**

## Appendix B: Sample Title Page

**Developing a New Linear Induction Motor Drive with A-Source Inverter**

**Using a DSP**

**Graduation Thesis**

**in**

**Electrical and Electronics Engineering**

**Hasan Kalyoncu University**

**Supervisor(s)**

**Xxxx XXXXXX**

**By**

**Berrin SÜSLÜOĞLU**

**May 2XXX**

## Appendix C: Sample Copyright Page

© 20XX [student’s registered name]

### **Appendix D: Sample Approval Page**

REPUBLIC OF TURKEY

HASAN KALYONCU UNIVERSITY

FACULTY OF ENGINEERING

ELECTRICAL & ELECTRONICS DEPARTMENT

Name of the thesis:

Name of the student:

Exam date:

I certify that this thesis satisfies all the requirements as a thesis for the graduation thesis

(Title and Name)

Head of Department

This is to certify that we have read this thesis and that in our consensus/majority opinion it is fully adequate, in scope and quality, as a thesis for the graduation thesis.

(Title and Name) (Title and Name)

Co-Supervisor (if co-supervisor exists)(Major) Supervisor

Examining Committee Members(**Title and Name-surname)** Signature

XXXX XXXX XXXXXXXX …………………..

XXXX XXXX XXXXXXXX …………………..

XXXX XXXX XXXXXXXX …………………..

XXXX XXXX XXXXXXXX …………………..

XXXX XXXX XXXXXXXX …………………..

### **Appendix E. Sample Declaration Page**

**I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.**

**Name SURNAME**

**Signature**

## Appendix F: Sample Abstract

**ABSTRACT**

**DEVELOPING A NEW LINEAR INDUCTION MOTORO DRIVE WITH Z-SOURCE INVERTER USING A DSP**

SÜSLÜOĞLU, Berrin

Graduation Thesis in Electrical and Electronics Eng.

Supervisor(s): Prof. Dr. Name SURNAME

May 2XXX, XXXX pages

Although the driving principles of linear induction motor (LIM) ………..

**Key Words**: Linear induction motor, end effect, ………

## Appendix G: Sample Özet

**ÖZET**

**DSP KULLANARAK EMPEDANS BESLEMELİ YENİ BİR LİNEER ASENKRON MOTORO SÜRÜCÜSÜ GELİŞTİRİLMESİ**

**SÜSLÜOĞLU, Berrin**

**Bitirme Tezi, Elektrik-Elektronik Müh. Bölümü**

**Tez Yöneticisi(leri): Prof. Dr. Ad SOYAD**

**Mayıs 2XXX, XXX sayfa**

Lineer asenkron motorun (LAM) sürüş ilkeleri ……..

**Anahtar Kelimeler**: Doğrusal hareketli lineer motor, uç etkisi, ….

## Appendix H: Sample Dedication Page

To My Parents

## Appendix I: Sample Acknowledgements Page

**ACKNOWLEDGEMENTS**

The author wishes to express his/her deepest gratitude to his/her supervisor Prof. Dr. XXXXXXXXXX and Prof. Dr. XXXXXXXXXXX for their guidance, advice, criticism, encouragements and insight throughout the research.

The author would also like to thank Assoc. Prof. Dr. XXXXXXXXX for his suggestions and comments.

This study was supported by the XXXXXXXXXXXXXXXXX

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**LIST OF SYMBOLS/ABREVIATIONS**

A Controller system matrix

B Controller input matrix

C Controller output matrix

D Controller direct matrix

E Three-dimensional Euclidean Space

G Plant input matrix

G1 Plant disturbance input matrix

R A closed and bounded region in E

T Sampling period

u Control

v Measurement noise

xc Controller state

 Discrete plant control input matrix

1 Discrete plant noise input matrix

 Plant delay time or transportation lag