

**REPUCLIC OF TURKEY**

**YILDIZ TECHNICAL UNIVERSITY**

**FACULTY OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**DEPARTMENT OF BIOMEDICAL ENGINEERING**

**GRADUATION THESIS**

**TITLE OF GRADUATION THESIS**

Student number - Name SURNAME

Advisor: Title. Name SURNAME

Istanbul, 20…

**T.C.**

YILDIZ TECHNICAL UNIVERSITY

**DEPARTMENT OF BIOMEDICAL ENGINEERING**

…………………………………………… (TITLE OF THE THESIS)

A graduation thesis submitted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, (student name SURNAME) in partial fulfillment of the requirements for the degree of bachelor is approved by the committee on .../…/20.. (date) in Department of Biomedical Engineering, Faculty of Electrical and Electronics Engineering.

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This project is supported by TÜBİTAK BİDEB [ ] 2209A / [ ] 2209B. (This part will be filled only for projects that have received support from TUBITAK.)

I hereby declare that I have obtained the required legal permissions during data collection and exploitation procedures, that I have made the in-text citations and cited the references properly, that I haven’t falsified and/or fabricated research data and results of the study and that I have abided by the principles of the scientific research and ethics during my graduation thesis under the title of …………………………(Title Of Graduation Thesis) supervised by my advisor, Title. Name SURNAME (advisor name). In the case of a discovery of false statement, I am to acknowledge any legal consequence.

Name SURNAME (Student)

Signature

PREFACE

Preface section can be used to inform the readers about the thesis and/or to thank people. If you have received support from TUBITAK or other institutions, you can thank the institution in this section.

Month, 20..

Name SURNAME

CONTENT

[PREFACE iv](#_Toc97312039)

[CONTENT 1](#_Toc97312040)

[LIST OF SYMBOLS 3](#_Toc97312041)

[LIST OF ABBREVIATIONS 4](#_Toc97312042)

[ABSTRACT 5](#_Toc97312043)

[ÖZET 6](#_Toc97312044)

[SECTION 1 7](#_Toc97312045)

[1. INTRODUCTION 7](#_Toc97312046)

[1.1 Literature Survey 7](#_Toc97312047)

[1.2 Objective of Study 7](#_Toc97312048)

[SECTION 2 8](#_Toc97312049)

[2. MATERIALS AND METHODS 8](#_Toc97312050)

[2.1 Materials (Subsection) 8](#_Toc97312051)

[2.2 Methods (Subsection) 8](#_Toc97312052)

[2.2.1 Method1 (Subsubsection) 8](#_Toc97312053)

[2.2.2 Method2 (Subsubsection) 9](#_Toc97312054)

[2.2.3 Method3 (Subsubsection) 9](#_Toc97312055)

[SECTION 3 10](#_Toc97312056)

[3. RESULTS AND DISCUSSIONS 10](#_Toc97312057)

[SECTION 4 11](#_Toc97312058)

[4. REALISTIC LIMITS, CONDITIONS AND CONSTRAINS 11](#_Toc97312059)

[SECTION 5 13](#_Toc97312060)

[5. CONCLUSION 13](#_Toc97312061)

[REFERENCES 16](#_Toc97312062)

[APPENDIX-A 17](#_Toc97312063)

[A- MATLAB FILES 17](#_Toc97312064)

[APPENDIX-B 18](#_Toc97312065)

[B- MATLAB CODES 18](#_Toc97312066)

[RESUME 19](#_Toc97312067)

LIST OF SYMBOLS

Ai Activities of Daily Life

C Alternate Step Test

C Body Mass Index

Select Lists Style from the style tab for icons. While preparing the Symbol List, put blanks after the symbol by pressing the TAB key as stated above and write the description after this space.

LIST OF ABBREVIATIONS

ADL Activities of Daily Life

AST Step Test

BMI Body Mass Index

CSFT Cross Step moving on Four Stops

DBN Dynamic Bayesian Networks

DFRAC Demura’s Fall Risk Assessment Chart

EMG Electromyography

FEUP Faculdade de Engenharia da Universidade do Porto

FPRI Fall Prediction and Risk Index

For abbreviations, select Lists Style from the style tab. While preparing the abbreviation list, press the TAB key after the abbreviation name as stated above, and leave a space and write the explanation after this space.

ABSTRACT

TITLE OF GRADUATION THESIS

Name SURNAME

Department of Biomedical Engineering

 Graduation Thesis

Advisor: Title. Name SURNAME

Abstract is used to give a preview of the study. It must include the key components from Introduction, Materials and Methods, Results, and Discussion sections. Typically, a one or two paragraph abstact of around 150-200 words is sufficient.

**Keywords:** Keyword1, keyword2, keyword3, keyword4, keyword5

Do not forget to put blanks after the comma between the keywords.

YILDIZ TECHNICAL UNIVERSITY

DEPARTMENT OF BIOMEDICAL ENGINEERING

ÖZET

BİTİRME TEZİ BAŞLIĞI

İsim SOYİSİM

Biyomedikal Mühendisliği Bölümü

 Bitirme Tezi

Danışman: Ünvan. İsim SOYİSİM

Özet, çalışmanın bir önizlemesini vermek için kullanılır. Giriş, Gereçler ve Yöntemler, Sonuçlar ve Tartışma bölümlerindeki temel bileşenleri içermelidir. Tipik olarak, yaklaşık 150-200 kelimelik bir veya iki paragraflık bir özet yeterlidir.

**Anahtar Kelimeler:** Anahtar kelime1, anahtar kelime2, anahtar kelime3, anahtar kelime4, anahtar kelime5

YILDIZ TEKNİK ÜNİVERSİTESİ

BİYOMEDİKAL MÜHENDİSLİĞİ BÖLÜMÜ

SECTION 1

# INTRODUCTION

## Literature Survey

Motivation for the work is given here with a background. A detailed literature survey will be explained in this section. The literature should be well studied and previous studies should be handled carefully. You should include references and citations from similar works in your graduation thesis [1].

When citing references, as seen above, use brackets and a space should be placed after the sentence ends.

## Objective of Study

The objective of the graduation thesis will be briefly explained.

* Total length of Section 1 will not exceed 20 pages.
* The explanations below are valid for all sections.
* The title of section (SECTION 1) style should be selected as section\_principal. Numbers should not be written in front of this heading in the table of contents and at the beginning of the section.
* Heading (INTRODUCTION) style Heading 1 style should be selected. Numbers should not be written in front of this heading in the table of contents and at the beginning of the section.
* Sub-section (1.1 Literature Survey) style Heading 2 style should be selected.
* If there is a need for numbers in the titles, do not forget to correct the numbers and the title text as “Bold”. Put blank before headings.
* By selecting all content texts, line spacing options should be made Before: 6nk After: 6nk and Line Spacing: 1.5 lines. In figure texts, Line Spacing will be:1.

SECTION 2

# MATERIALS AND METHODS

In this section, the materials and methods you used in your study will be explained clearly with past tense. Illustrations or flow charts can be used to clarify your methods.



Figure 2.1: The flow chart components

## Materials (Subsection)

The materials section is used to explain materials, datasets, tools, chemicals etc. those are used in the study.

## Methods (Subsection)

The methods section is related to conduction of the study. All the steps or procedures to achieve the objectives, including the experimental design and data analysis is given here.

### Method1 ([Subsubsection](http://tr.wikipedia.org/wiki/Y%C4%B1ld%C4%B1z_Teknik_%C3%9Cniversitesi_Elektrik-Elektronik_Fak%C3%BCltesi))

Subsubsections may be used to sepearetely give details of several methods, if necessary.



Figure 2.2: General view of the Computer Lab.

### Method2 ([Subsubsection](http://tr.wikipedia.org/wiki/Y%C4%B1ld%C4%B1z_Teknik_%C3%9Cniversitesi_Elektrik-Elektronik_Fak%C3%BCltesi))

Subsubsections may be used to sepearetely give details of several methods. Footnote example is given here[[1]](#footnote-1). Below are examples of how to write equations.

 (2.1)

 (2.2)

Do not include equations as figures or text. Add by selecting Equation from the Insert menu. Write the equation numbers as SectionNumber.EquationNumber in parentheses as seen above. If you select the equation and the number of the equation justified and leave 1 TAB space between them, the equation will be fully left justified and its number will be fully right justified. Do not forget to refer to equation numbers in the text.

### Method3 ([Subsubsection](http://tr.wikipedia.org/wiki/Y%C4%B1ld%C4%B1z_Teknik_%C3%9Cniversitesi_Elektrik-Elektronik_Fak%C3%BCltesi))

Subsubsections may be used to sepearetely give details of several methods. Example table format is given in Table 2.1.

Table 2.1 Example table format

|  |  |
| --- | --- |
| EXPERIMENTS | NUMBER OF INPUTS |
| Experiment 1  | 1 |
| Experiment 2 | 4 |
| Experiment 3 | 4 |

SECTION 3

# RESULTS AND DISCUSSIONS

The results of the study are clearly given in this section. Tables and figures should be used to present the results.

This section is also used to discuss and interprete the results obtained in the study. The results of the the study can be compared with other similar studies from the literature.

SECTION 4

# REALISTIC LIMITS, CONDITIONS AND CONSTRAINS

Realistic limits, conditions and constrains taken into consideration in the design of the study should be given in this section. You can discuss about project's applicability and the real-life conditions and limits, and also the benefits and drawbacks, among other things.Some key aspects to consider when studying, designing, and writing the final thesis, as well as when evaluating the submitted work, are:

|  |  |
| --- | --- |
| Phisical limitations, constraints and boundaries | Some limits, such as mechanical, electrical, and magnetic restraints. Friction, saturation, hysteresis, and other factors must be considered.Working space, trajectory, barriers, terrain, platforms, and other restrictions. |
| Engineering norms and standards | To design the project, important regulations, norms and standards must be considered. In the case of simulated work, real-world implementation difficulties should be addressed. |
| Economic aspects | Information about how this study may benefit the community or country.Detailed information on the list of components and equipment, as well as costs, in order to establish a total budget. |
| Environmental aspects | Information about how the designed system may contribute to the community or country considering this aspect. |
| Sustainability | Information regarding how the intended system may benefit the community or country in this regard. |
| Manufacturability | Information regarding how the intended system may benefit the community or country in this regard. |
| Health aspects | Information regarding how the intended system may benefit the community or country in this regard. |

SECTION 5

# CONCLUSION

This section is used to conclude the study. It emphasizes the outcome of the work by relating it to the motivation. Generally, at most a two-or-three paragraph conclusion is enough.

Some key notes about thesis writing are given below. You should delete these ones before the submission

**Writing**

The graduation thesis should be written in passive sentences. For example, expressions such as “is obtained”, “is observed” and “is designed” should be used instead of expressions such as “I have obtained”, “I observed”, “I designed”.

The written language should be as simple as possible, technically focused and easy to understand. Long complex sentences should be avoided. Instead, short and clear sentences should be formed with the same meaning.

**Punctuation**

* Dot, comma, semicolon, colon, exclamation point and question mark are written adjacent to the word that precedes it and separately from the word that follows it.
* In punctuation marks, quotation marks, single quotation marks, parentheses, square brackets and curly brackets are written adjacent to the text they surround and separate from the outside text.
* Separator is written adjacent to both the word and the suffix.
* When referencing a specific section, figure, table or equation in the text, an appendix is written by placing a separator after the number. For example, it is used as “the block diagram of the system is given in Figure 4.2”, “this is obtained by combining equations (3.2) and (3.4)” and “as discussed in detail in Chapter 3”.

**Citing**

Another important point in graduation thesis writing is to cite the necessary and sufficient amount of citations. Not making enough references means owning someone else's opinion and is against ethical rules. For example, if a block diagram that describes the problem in the study very well is in another work in the literature and this figure will be added to the text, the figure text should be written in a way that includes references as “Figure 2.4 The problem aimed to be solved with the proposed system [8]”. If there is a determination taken from the literature in the sentence used, “According to a study conducted in 2013, only 15% of hospitals in Turkey are equipped with this type of medical equipment [15].” As in the example, the reference number is referred to at the end of the quoted sentence before the period. References to the sentence are written after the last word of the sentence, before the period, separately from the word and adjacent to the point.

**Figures**

* ‘Figure’ number and description of the figure are written under the figure.
* Figure number M is written as M.N, section number N and the order of the figure within the section. For example, figure 7 of chapter 1 is numbered "1.7".
* Figure caption should be written with a space of one character after the number, and only the first letter of the first word should be written in capital letters and the other words should be written in lowercase.
* In figures taken exactly from another source, reference is made to the relevant source at the end of the figure caption.
* Each figure must be cited and explained in the text.

**Tables**

* The table must be centered on the page.
* 'Table' the number of the chart and the explanation of the chart are written on the top line of the chart.
* The table number is written as M.N with M being the section number and N being the order of the figure within the section. For example, chart 5 of chapter 2 is “2.5.” is numbered.
* In the table caption, only the first letter of the first word should be written in capital letters and the other words should be written in lowercase letters, leaving a space of one character after the number.
* In tables taken exactly from another source, reference is made to the relevant source at the end of the table caption.
* Each table must be cited and explained in the text.

**Equations**

The equation number is written in parentheses, M is the section number and N is the order of the figure in the section (M.N) at the end of the line.

REFERENCES

|  |  |
| --- | --- |
| [1]  | E. Aysu, «Yıldız Teknik Üniversitesi,» %1 içinde *Şehir Planlamasında Yoğunluk*, İstanbul, Yıldız Üniversitesi Yayınları, 2011, p. 214. |
| [2]  | H. Sarbanoğlu, «Yazılım Krizi SSADM,» *Harita Dergisi,* no. 109, pp. 70-93, 1988.  |
| [3]  | M. v. L. Y. Isdale, «An Object Modelling Framework for Geographic Information,» %1 içinde *ISPRS XVII*, Washington, 2-14 August 1992.  |

APPENDIX-A

1. MATLAB FILES

If you don't have any attachments, delete this section.

APPENDIX-B

1. MATLAB CODES

If you don't have any attachments, delete this section.

RESUME

**1. STUDENT PERSONAL INFORMATION**

|  |  |
| --- | --- |
| **Name SURNAME**  | : |
| **Birth Place and Date** | : |
| **Foreign Language** | : |
| **E-mail** | : |

**EDUCATION STATUS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Degree** | **Field** | **School/University** | **Graduation Year** |
| High School |  |  |  |

**JOB/TRAINEE EXPERIENCES**

|  |  |  |
| --- | --- | --- |
| **Year** | **Firm** | **Duty** |
| 2010 |  |  |
| 2005 |  |  |
| 2002 |  |  |

1. Footnote example [↑](#footnote-ref-1)