Outer Cover

T.C.

KARADENIZ TECHNICAL UNIVERSITY

Of Technology Faculty

Department of Electronics and Communication Engineering

UNDERGRADUATE ENGINEERING DESIGN AND GRADUATION PROJECT WRITING GUIDE

Student No Name Surname
Student No Name Surname

Consultant Title Name Surname

January
2023
TRABZON

Inside Cover

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UNDERGRADUATE GRADUATION PROJECT APPROVAL FORM

.... by .....in the management of
prepared "....."
The undergraduate graduation project has been examined by us and accepted as an Undergraduate Graduation Project in terms of its scope and quality.

Counselor : Title Name and Surname

Jury Member 1 : Title Name and Surname

Jury Member 2 : Title Name and Surname

Head of Department : Title Name and Surname

PREFACE

This guide has been prepared to help the preparation of the Graduation Study book to be prepared by the students of Karadeniz Technical University Of Technology Faculty Electronics and Communication Engineering Department. Careful reading and application of this guide will enable our students to prepare a good thesis.

In the preface, the instructor who advised the Graduation Study should be thanked, and other instructors, technicians and other employees should be thanked if they have been helpful. Thanks should be given to fellow students and other people who have been helpful. Thanks should also be given to the Head of the Department for allowing the use of departmental facilities for the Graduation Studies, and to the Dean of Of Technology Faculty and the Rectorate of KTU for their support.

I would also like to thank my family members for their support during my education.

January 2023
Names and surnames of the students in the group

TABLE OF CONTENTS

Undergraduate Graduation Project Approval Form iii
Preface v
Table of Contents vii
Summary ix
Symbols and Abbreviations xi

1. Introduction 1

2. General spelling rules 3

2.1. 2.1. Paper and Duplication System to be used 3

2.2. 2.2. Writing Method 3

2.2.1. Page Layout 3
2.2.2. Line Spacing and Layout 4
2.2.3. Section Headings 4
2.2.4. Page Numbering 4
2.2.5. Shapes 5
2.2.6. Photos 6
2.2.7. Schedules 7
2.2.8. Formulas 8
2.2.9. Symbols and Abbreviations 9
2.2.10. Sources 9
2.2.11. Attachments 11

3. Content 12

3.1. Beginning Section 12

3.1.1. Preface 12
3.1.2. Table of Contents 12
3.1.3. Summary 12

3.2. Sections 13

3.2.1. Section Contents 13

Sources 16
Attachments 17
Resume 18

SUMMARY

This guideline has been prepared to ensure unity in the written presentations of the Engineering Design and Graduation Project studies to be prepared in the Department of Electronics and Communication Engineering, Of Technology Faculty.

When preparing a project report or book, it should be kept in mind that the *summary*, *introduction* and *conclusion* sections are the most read sections. These three sections give the reader general information about the subject. For this reason, the project topic and important results should be clearly written in these sections.

When writing the abstract, it should be kept in mind that the aim is to give the reader a general idea about the project. The first paragraph of the abstract should define the project topic. In the other paragraphs, the content and objectives of the project should be described and the methods and results should be mentioned.

Since the abstract describes a finished project, the passive voice should be used in the narrative, such as "done, completed, implemented".

SYMBOLS AND ABBREVIATIONS

Explanations of the main symbols and abbreviations used in the Engineering Design or Graduation Project book are listed under this heading. This heading starts on a new page and continues on a second page if necessary.

INDEX OF FIGURES

Descriptions of all figures used in the Engineering Design or Graduation Project book are listed under this heading by giving the figure number. This heading starts on a new page and continues on a second page if necessary.

INDEX OF CHARTS

Explanations of all charts used in the Engineering Design or Graduation Project book are listed under this heading by giving the chart number. This heading starts on a new page and continues on a second page if necessary.

1. INTRODUCTION

The Graduation Project Book to be carried out by engineer candidates while graduating from Karadeniz University Of Technology Faculty, Electronics and Communication Engineering Departments is written according to the rules specified in this guide with examples. Graduation assignments that are not written in accordance with the specified rules are not accepted.

The Graduation Project starts with the studies in the *Engineering Design* course, which is a prerequisite for this course. In order to start the application process to institutions and organizations to provide financial support early, *Engineering Design* advisor assignment procedures are carried out in May of the previous academic year (for students who are in the 6th semester and will take the *Engineering Design* course in the 7th semester or for students in upper grades who will take *Engineering Design for the* first time). Students who do not take action for the appointment of an *Engineering Design* advisor in May must complete this process by the end of the add-drop week of the new academic year in September. This process ends at the end of the 3rd week at the latest. *Engineering Design* advisors are also *Graduation Project* advisors and students who pass the *Engineering Design* course continue *the Graduation Project* with the same advisor in the following semester. The subject of *Engineering Design* starts with the advisor-student pairing at the end of the 6th semester in May and is finalized within the fourth week of the 7th semester at the latest. A similar process is applied to students who lose a semester and have to take the *Engineering Design* course in the Spring semester. Students in this situation should get information from the Head of the Department and follow the announcements on the subject. The topic of *the Graduation Project* is a continuation of the work done in the *Engineering Design* course. Graduation Projects that do not start with *Engineering Design* are not accepted. The topic ***of the Engineering Design-Capstone Project*** must meet at least one of the following requirements.

a. Design and hardware implementation of a system.

b. Finalizing the theory-baseddesign andsimulations of a system. (Applied in cases of epidemics, etc.)

c. Designing and implementing software for a system or process

d. Design and realization of a part of an industrial project

Engineering Standards and Realistic Constraints should be taken into consideration in all kinds of studies, and it should be clearly stated which standards are t a k e n into consideration, complied with and applied where and for what purpose according to the

subject and scope of the study. Project

Legal problems that may arise in case of implementation should be investigated and explained in the project.

In *Engineering Design* and *Graduation Project* books, the total number of citations from other sources should not exceed 20%. **No quotations should be made in the form of copy-paste in paragraphs from other sources.** Each quotation must be cited and referenced in accordance with the explanations in the ***References*** section. Only 10% of the figures can be taken from other sources provided that the source is cited. The remaining figures should consist of explanatory and concluding figures drawn by the authors of the study. All figures used in the sections titled *design, simulation, experimental study* and *results should be* the figures that emerged in the project and should never be taken from elsewhere.

Under each figure quoted, the source from which it is taken must be indicated by giving the source number. For figures taken from the internet, the working link address must be given.

In quotations from printed sources or the internet, national or international journals, books, symposiums, congresses, theses, patents, annual reports published by nationally and internationally recognized organizations and publications such as application books should be used. Apart from these, documents containing descriptive information specific to the material and device used, such as data-sheets, should not be cited as references, they should be given in the Appendix. Similarly, product web page information, company web page information and promotional material information should never be used as a source, quoted and included in the thesis book. At least 2 of the references must be scientific articles or symposium proceedings published in English.

Internet sites that are created by some groups and that offer students the convenience of preparing thesis, homework, project and lecture notes, which contain only someone's unverified information or opinions without peer review, should never be quoted. **Engineering Design and Graduation Project books containing citations from such sources will not be accepted.**

Engineering Design and Graduation Project books that meet the project submission requirements are available ON-LINE in PDF format on the Engineering Design and Graduation Project sub-pages of the department web page.

Engineering Design Online File Submission

Graduation Project Online Initial File Submission

It should be uploaded by going through the titled links. In these first uploads, a file will be uploaded on behalf of the project group. When naming the uploaded file, the abbreviated name of the project advisor and the group number should be used. This numbering should be done by the advisors and they should inform their students about their group. The following file name examples can be taken into consideration.

etugcu_01.pdf
zhtugcu_01.pdf
caksoy_01.pdf
calbayrak_01.pdf
eulutas_01.pdf
esesli_01.pdf

The numbers can be increased by 01, 02, 03, ... depending on the number of groups.

Therefore, with the submission of the project file, both the control of the project book and its storage in the electronic library will be ensured. The deadline for the delivery of the books in PDF format ON-LINE is the same as the Graduation Project deadline specified in the KTU Academic Calendar.

Engineering Design books submitted in PDF format must meet the ***Engineering Design File Submission Requirements*** given in **Annex-1**. Likewise, Graduation Project books must meet the ***Graduation Project File Delivery Conditions*** given in **Annex-2**. The fulfillment of these conditions should be marked on the relevant forms, and after the necessary signatures are signed, it should be added to the relevant book as the last page and submitted. If the answer to all the conditions in the forms is not "YES", the book cannot be delivered. It should be noted that action may be taken against those who make false statements.

If deemed necessary by the academic advisor and the Head of the Department, *Engineering Design* or *Graduation Project* students who are determined to be able to meet the conditions with very few formal corrections **other than one-to-one quotations from other sources are** notified by e-mail that they need to make corrections. E-

It is the sole responsibility of the students to keep track of the information sent to their mail. Within 3 days from the date this information is sent, the necessary corrections must be made and the booklet must be submitted ON-LINE again as it was the first time. Project books submitted for the second time will be re-examined and the result will be e-mailed to the relevant students or announced on the department web page.

Projects that are prepared according to this guide and meet the project file submission requirements are included in the presentation program. PDF files of the projects included in the presentation program are shared with the faculty members of the department. Thus, faculty members can review and evaluate the project books they are on the jury before or after the presentations.

The owners of the projects included in the presentation program print out a copy of their project books, bring them to the hall where the presentations are held in cardboard binders and deliver them to the project advisors. Thus, the jury members have the opportunity to examine the project during the presentation.

Projects that fail to meet the file submission requirements are not included in the presentation program. Such projects are considered unsatisfactory and students will have to redo their work in the following semesters.

Since the Engineering Design ***Evaluation Form*** given in **Annex-3** will be taken into consideration when Engineering Design is evaluated by the exam jury, attention should be paid to whether the prepared *Engineering Design* book covers what is required in this form. Likewise, since the *Graduation Project* exam jury will make their evaluations by taking into account the *Graduation Project* ***Evaluation Form*** given in **ANNEX-4**, attention should be paid to whether the prepared *Graduation Project* book covers what is required in this form.

Students who receive a PASS grade after the presentations of their graduation projects are required to submit the final revised version of the project book under their own names.

Graduation Project Online Final Submission

They submit from the titled interface. Each student uploads the file under his/her own name, no longer under the group name. The name of this final submission file should be "*Student Number First Name Last Name.pdf*". For example:

123456 Ali ÇALIŞKAN.pdf

Like this.

2. GENERAL SPELLING RULES

This file you are reading is written according to the writing rules of the Graduation Project Booklet and can be used as an example. The rules to be followed in different parts of the booklet are given in detail below.

Charts, figures and formulas used in the study are drawn in computer environment according to technical drawing principles. Text and symbols are written legibly and in accordance with the technical writing standard TS 88-23 ISO 128-23. All charts and figures in the graduation study are cited in the text.

2.1. Paper and Duplication System to be used

Project books are delivered digitally. Since 2009, printed project books have not been purchased. However, one cardboard bound project book is printed to be used during the presentations and delivered to the project advisor during the presentation. Although a printed project book is not delivered, the project book delivered digitally must be in a certain format. The page size of the project book should be set to 210x297 in accordance with DIN-A4 norm. The writings should be in black color. The lines of the charts should be in black color and the chart cells should not be colored. Figures must be clear and understandable. Light and faint colors should not be used in figures and graphics.

2.2. Writing Method

The project book should be written on a computer. "**Times New Roman**" should be chosen as the typeface and it should be "**12 point**". If needed, *italic* font can be used to emphasize some expressions. Other types of writing are not accepted. All symbols and special signs must be written on the computer. Corrections such as erasures, scratches, etc. must be made with care. **Bold** letters are used in titles and in the text when emphasis is desired. One character space is left after commas and periods.

2.2.1. Page Layout

Leave 3 cm margins on the top and left edges of the page and 2.5 cm margins on the bottom and right edges. The last word of the last line of the page is not divided into two. Sub-section headings should be written at least two lines above the bottom margin or on the following page.

The main chapter titles such as Preface, Table of Contents, Abstract, Introduction, Theoretical Background, Design, Simulation, Experimental Study, Results and Evaluations (as in the title of this chapter) are written in CAPITAL LETTERS in 12-point **bold font** starting from the first line of a new page with the chapter number. After the main title, a 12-point paragraph space is left and the text is started.

Footnotes should not be used and additional explanations, if any, should be given under the heading APPENDICES.

2.2.2. Line Spacing and Layout

All text is written with 1.5 line spacing. Table and Figure captions, References and Appendices are single-spaced. A 6-point paragraf space is left between two references. There should be one line space between the titles of Tables and Figures and between Tables and Figures. One letter space is left after punctuation marks such as periods and commas. Start a paragraph with a space of 5 letters.

2.2.3. Main Section Headings

Main section headings (as at the beginning of this page) start on the first line of a new page. The chapter number is given and written in CAPITAL LETTERS in 12-point **bold font**. After the heading, a 12-point paragraph space is left and the text is started or a subheading is written. A line space of 1.5 line spacing is left between two subheadings. Main sections should always start with a new page. Page numbers are not written on such pages.

2.2.4. Subheadings

As in this example, all subheadings and classification numbers should be written in bold. In sub-headings, only the first letters of the words are capitalized. In sub-headings in the text, two lines should be left with the upper text, and the lower line should be continued with normal paragraph spacing. Unnecessary words should not be included in the headings and very long headings should be avoided. All main and subheadings should be given a classification number. In sub-heading classification, as in this sub-heading example, the maximum number should be down to 3 digit sub-headings. Title numbering starts from the paragraph, the number is written and the title is written after a full stop and a one letter space.

2.2.5. Page Numbering

All pages of the thesis are numbered except the outer cover. The front pages of the thesis are numbered with Roman numerals (I, II, III, IV...) at the **bottom center of** the page. Numbering starts from the inner cover and continues. The inside cover and the "Undergraduate Graduation Project Approval Form" can be numbered, but not displayed. Numbering starts with the number (V) written at the bottom of the "Preface" page and continues until the **1st INTRODUCTION** section.

The text part of the book, starting with the **1st INTRODUCTION**, will be located at the **bottom center** of the page.

are numbered with Arabic numerals (1, 2, 3,). Page numbers **should not be written** between signs such as parentheses or two lines. Pages with main headings **(1. INTRODUCTION, 2. THEORETICAL INFRASTRUCTURE, ... 7. CONCLUSIONS, etc.**) are taken into account in the numbering, but no page number is shown on these pages. For example, since the "**1st INTRODUCTION**" page will not be numbered, the numbering starts with 2 written at the bottom center of the second page of the **"1st INTRODUCTION**" section.

2.2.6. Shapes

Visual elements such as graphs, diagrams, maps, photographs, pictures, etc. are considered and used as figures. Figures and graphics are drawn on a white background on a computer. **Line thickness and colors should be carefully selected**, taking into account visibility in reproductions to be made with photocopying etc. devices**.** Light colors such as yellow should not be used as axis and graphic lines. Dark color lines should be used. In graphics, the background color should be white and the lines should be dark. **Light colored graphics on a black background are not accepted.**

For figures that will occupy half a page or close to half a page, the figure should be either at the top or bottom of the page. There should be two single-spaced single-line spaces between the figure and the text. Figures that take up more than half a page can be placed on a separate page. There should not be more than three figures on the same page unless absolutely necessary. The **x** and **y** axes and their units, if any, should be written on the figure. As given in Figure 1.1, the axes should be written without punctuation, the figure lines should be clear and distinct, the font type and size used in the figure should be compatible with those used in normal text. Everything on the figure should be easily readable.

Figures should be referred to in the text to explain what they mean. For example,

Figure 1.1 compares the theoretical simulation and experimental results of displacement distances. Experimental results and theoretical simulation

results give the same variation with very little error, indicating that the modeling used in the simulation has a good degree of accuracy.

Linear scale is used in figures. Figures should be placed as close to the text as possible, after their first mention in the text. All figures are numbered according to their consecutive or section numbers. The characters in the figure cannot be smaller than 10 points. In the placement of figures, the spaces required to be left on the margins of the page should never be overflowed. In this case, either the figures should be reduced in size or presented in the Appendix. When necessary, large figures can be placed horizontally on the page.

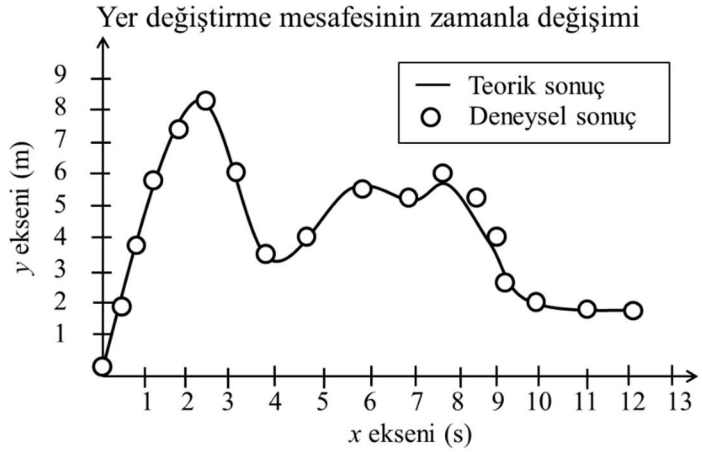

Figure 1.1. Figure and figure caption are centered horizontally on the page.

Figures are centered horizontally on the page and numbered as Figure 1.1., Figure 1.2. ...., according to their section numbers. Figures in the appendices are numbered as Figure E1.1., Figure E1.2. All text under the figure is written in normal characters as in Figure 1.1. **Bold** characters are not used. Figures are numbered according to main headings. They are not numbered according to subheadings. The figure itself and the caption are centered horizontally on the page. The title of the figure is written as a normal sentence with only the first letter capitalized. Figure captions that are longer than one line are not centered, but spread over more than one line justified on both sides and written as in Figure 1.2.

If the caption under the figure is spread over 2 or more lines, the line spacing is 1 line, not 1.5. The beginning of the second line is aligned with the first letter of the caption after the figure number as in Figure 1.2. One line between the bottom edge of the figure and the figure caption, and one line between the figure caption and the normal text.

Leave 2 line spaces with line spacing. Figures that do not fit on one page are continued on the next page with the title "Continuation of Figure ....".

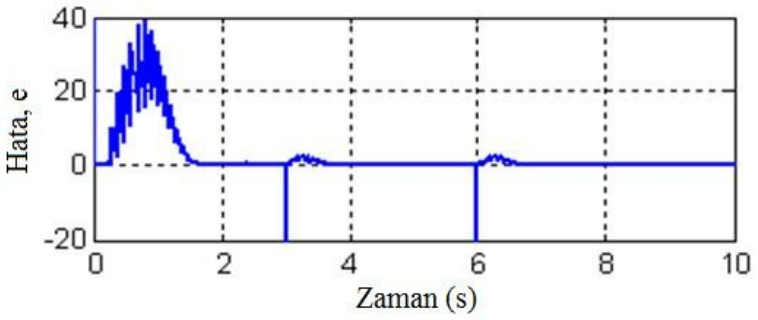

Figure 1.2. This caption is an example of a long caption. The line spacing in the caption is one line. The first letters of the second and subsequent lines start at the same level as the first letter of the first line after the chassis number.

2.2.7. Photos

The resolution of the photographs to be used in the project book should be high and the content of the photograph should be clearly visible without straining the eyes. Blurred, foggy, disorganized photographs with mixed images and writings should never be used. Photographs whose content is not visible and understandable are not accepted. The photographs used must belong to the study and photographs belonging to others should not be used without written permission. Photographs should be numbered as in the figures. In other words, the photographs should be numbered as if they were figures by continuing the figure numbers as Figure 1.1., Figure 1.2. ..... Each photograph used should be referred to in the text and its nature should be clearly explained. In the Design, Simulation, Experimental Study and Results sections, photographs belonging to others cannot be used even with reference. The photographs and figures used in these sections must consist of figures drawn or photographs taken within the scope of the project.

2.2.8. Schedules

The word "Schedule" will be used in the writing format of the project files and "Table" will not be used.

In the text, the tables should be as close as possible after the first mention. Tables are numbered as Table 1.1, Table 1.2, according to the section numbers in the text. They are not numbered according to subheadings. Tables in the appendix are numbered as Table E1.1, Table E1.2.

As shown in Table 1.1 as an example, narrow charts that do not cover the page width are centered according to the page width. Charts with narrow column contents are narrowed and centered according to the content. Empty and wide columns are not used. The width of the chart should be adjusted by the content, not by the lines.

The number and name of the chart should be written above the chart, aligned with the left margin of the chart. There should be 2 line spaces with 1 line spacing between the name of the chart and the previous text, and 1 line spacing between the top edge of the chart and the name of the chart. Chart names longer than one line should be written with 1 line spacing, and other lines should start at the same level as the first line (except the chart and its number). The chart number is written in Arabic numerals and only the initial letter of the word chart is capitalized. The name of the chart is written with a space of one character after the number is written and a period is placed. The chart name is written in normal sentence form with only the first letter capitalized.

Figures, words, symbols, abbreviations, etc. in the table content should be arranged and displayed in a clear, visible and understandable manner. **The background of the table must be absolutely white.** Characters in the table cannot be smaller than 10 pt. All abbreviations other than international abbreviations must be defined. No language other than Turkish should be used in the tables.

Table 1.1. Resistivity at 20^{o} C of some materials used in the simulation and experimental parts of this study [2].

Material		Resistivity (Ω.m)
Conductors	Silver	1.6×10^{-8}
	Copper	1.7×10^{-8}
	Aluminum	2.8×10^{-8}
	Constantan (Cu-Ni mixture)	49×10^{-8}
Semiconductors	Carbon	4×10^{-5}
	Germanium	0.45
	Silicone	2500
Insulators	Paper	1010
	Mika	5×10^{11}
	Cam	1012

The chart can be open or closed framed. Table 1.1 can be taken as an example for closed frames. An open-framed chart has at least 3 horizontal lines. The first of these should show the top edge of the chart, the second the column headings and the third the bottom edge of the chart. Table 1.2 is an example of an open framed chart. The space between the chart frame and the vertical and horizontal partitioning charts should not be thick and shaded, but should be of normal thickness. If deemed appropriate by the author, the explanation of symbols or abbreviations related to the chart can be written under the bottom line of the chart, starting from the left edge, single-spaced. Between the bottom edge of the chart and the text that follows, 2 spaces of 1.5 line spacing should be left. In charts taken from other sources, the source taken from other sources must be cited as in Table 1.1 and the details of the source are given in the References list. Charts taken from other sources **are recreated and absolutely no copy-paste image is used. The language used in figures and charts is Turkish. There is no explanation in another language. Charts are prepared in accordance with** TS 88-23 ISO 128-23 **norm. Random fancy, colored charts are not used.** Schedule 1.1 and Schedule

1.2 are the formats that can be used. Charts in any other format are invalid and will not be accepted.

Table 1.2. Example of a chart with only horizontal lines.

	Work Zones									
	I	II	III	IV	V	VI	VII	VIII	IX	X
e	+	0	-	-	0	+	+	-	+	0
Δe	-	-	-	+	+	+	-	0	0	0
Δu	+	-	-	-	+	+	+	-	+	0

For schedules that do not fit on one page, starting from the next page "Schedule Continuation of ....." heading. In the placement of the chart, the spaces required to be left on the edges of the page should never be overflowed. If necessary, the chart can be placed horizontally on the page. If it is necessary to use large-sized pages, digital pages can be used so as not to impair the resolution. When printed, the pages should be folded in accordance with standard folding procedures and given as an Appendix.

2.2.9. Equations (Formulas)

All formulas or equations in the text from the beginning according to their section

numbers (1.1), (1.2), (1.3) ...., Equations in the appendix

They are numbered as (E.1), (E.2), (E.3). Equation numbering is not done according to subheadings. Equations start from the paragraph. The equation number is placed on the right margin and the equation is centered. Equations should be cited in the text and the necessary explanation should be given. Equations are referred to in the text as Equation (1.2). For example, Equation 1 of Chapter 2 is given as Equation (2.1).

$$y(t) = Ae^{-t} \sin(\omega t - 30)^{o} \qquad (2.1)$$

When numbering the equations, if the section number is also given as in Equation (2.1), the edits to be made in one section will not change the numbers of the other section equations. Only editing within the relevant section will be sufficient. Equation numbering is limited to the section number only. Subheadings are not used as equation numbers.

2.2.10. Symbols and Abbreviations

Symbols and abbreviations used in the project book are listed on a separate page after the abstract. **Symbols and Abbreviations** should be written in capital letters at the top-center of the page. Symbols should be placed one below the other starting from the left edge of the page and a description should be given opposite them, 10 characters from the beginning of the line. For terms consisting of more than one word that are widely used in the book, abbreviations can be made by using the initials. In this case, the abbreviation should be explained only once in the first occurrence (in parentheses).

2.2.11. Sources

All quotations made from other sources in the project book and not exceeding 20% must be cited by giving a number in square brackets [...] in the order of use. No **complete quotation should be made in paragraphs from** any **source. The** project book should contain the statements made by the authors of the study in their own words, and in cases requiring more information, reference should be made to the original publication that should be consulted and previously published. The reference list at the end of a source used should never be transferred to the thesis. If possible, the original publication in such reference lists should be found and cited.

should be utilized. One should never think that I have cited the source anyway, I can take everything and add it to my thesis.

As with IEEE [1] and TUBITAK [2] publications, each publisher has its own specific spelling rules. When referring to a source in the text, simply
A structure as given in [2] should be used. "Ref. [2]" or "Source [2]" should not be used. However, the phrases "As given in Reference [2]..." can be used at the beginning of sentences. If more than one source is to be cited at the same time, the sources should be separated by commas in square brackets and listed from small to large as [1,4,5,6,7]. If the referenced sources have a continuous number, only the first and last source numbers should be written as [4-7] by placing a hyphen between them.

How to write the references in the references list should be as follows according to the type of source.

- Authored Books as in [1]
- Edited Books as in [2]
- Journal articles as in [3,4]
- Conference and symposium proceedings as in [5,6]
- Patents as in [7]
- Website or page as in [8,9]
- Data books and user manuals as in [10]
- Data lists (datasheet) as in [11]
- Master's and doctoral theses as in [12]
- Technical reports as in [13]
- Standards as in [14]

All references given in the text are written on the references page. When writing the list of references, the first names of the authors are abbreviated and only their surnames are written. Only the first letter of the surname is capitalized. In publications with multiple authors, authors are separated by commas.

References are written single-spaced with 11 pt font. There should be a 6 pt paragraph space between two references. References are numbered in square brackets starting from [1] according to the order in which they appear in the text. If it is desired to refer to the previously numbered source again, the previous number is used. The layout of the references page should be as shown below.

SOURCES

[1]. M. Buresch, *Photovoltaic Energy Systems Design and Installation,* McGraw-Hill, New York, 1983.

[2]. J. Breckling, Ed., *The Analysis of Directional Time Series: Applications to Wind Speed and Direction*, ser. Lecture Notes in Statistics. Berlin, Germany: Springer, 1989, vol. 61.

[3]. L.A. Zadeh, "Fuzzy sets", *Information and Control*, 8, 1965, pp. 338-353.

[4]. W.Z.Fam and M.K.Balachander, "Dynamic Performance of a DC Shunt Motor Connected to a Photovoltaic Array", *IEEE Trans. Energy Conversion, Vol. EC-3*, No.3, September 1988, pp.613-617.

[5]. M. Wegmuller, J. P. von der Weid, P. Oberson, and N. Gisin, "High resolution fiber distributed measurements with coherent OFDR," in *Proc. ECOC'00*, 2000, paper 11.3.4, p. 109.

[6]. I. H. Altas, "A Fuzzy Logic Controlled Tracking System For Moving Targets", *12th IEEE International Symposium on Intelligent Control, ISIC'97*, July 16-18, 1997, Istanbul, Turkey, pp. 43-48.

[7]. R. E. Sorace, V. S. Reinhardt, and S. A. Vaughn, "High-speed digital-to-RF converter," U.S. Patent 5 668 842, Sept. 16, 1997.

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[14]. *Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specification*, IEEE Std. 802.11, 1997.

2.2.12. Attachments

Materials and information which, if included in the text, would distort the appearance and integrity of the study or distract attention should be given in the **APPENDICES** section. These are large and detailed charts, questionnaire forms, documents, large maps and the like. A title should be chosen for each document or explanation to be included in this section and they should be numbered in the order of presentation, such as **Annex 1, Annex 2,** etc., each starting from a separate page. The appendices in the dissertation book should be listed as follows.

Annex-1. IEEE Code of Ethics is attached in Turkish and English. ANNEX-2. Constraints Form
ANNEX-3. Interdisciplinary
Study ANNEX-4. Software
List
ANNEX 5. Data Sheet Annex-
6. Technical drawing details
ANNEX-7. Other attachments
if any

2.2.13. CVS

A short curriculum vitae of the students who did the graduation study and prepared the book is given in prose format. In the curriculum vitae, especially educational information and information such as awards, achievements, etc. received during their studies are included.

3. CONTENT

For punctuation and spelling, the Turkish Language Association Spelling Guide and Turkish dictionary should be followed. SI unit system should be used. MKS unit system can also be used when necessary. Care should be taken to use the third person in narration. Each symbol must be defined in the first place it appears in the text.

This section describes what should be included in the content of the project book. Following these explanations while writing the project book will prevent any victimization that may occur later. In addition to these instructions, you can also refer to the file named ***Graduation Book Writing Template on*** the Department web page. The direct use of the Graduation Book ***Writing Template.doc*** file in the writing of the Graduation Book will be beneficial in terms of compliance with the rules and content creation.

3.1. Start Section

3.1.1. Preface

It is written as the first page and does not exceed one page. It is a private message that the authors of the thesis would like to express and includes their personal opinions, aims and wishes on the subject. If there are organizations that support the thesis, they can be mentioned and, if desired, they can be thanked. There is also no acknowledgment page. **A FOREWORD** is written at the top of the page, in the center, in capital letters (bold and bold character). The names of the authors are written at the bottom right of the preface. The province and year of the thesis is written just below the author's name.

3.1.2. Table of Contents

All headings in the thesis should be given in page order without abbreviations as in the text. The title "**TABLE OF CONTENTS**" is written in capital letters at the top of the page i n the center, and the title "Page No" is placed in the upper right corner of the page. All headings in the thesis are written and the starting page numbers are shown against them. Page numbers should be written with the last digits underneath each other. For headings with two or more lines, the page n u m b e r should be written opposite the last line. Such headings should be single-spaced within themselves. The Table of Contents page of this manual can be taken as an example.

3.1.3. Summary

This section should not exceed one page. The **"ABSTRACT"** includes the purpose of the study, the methods used and important results. References are not cited in the abstract. The word **"ABSTRACT" is** written in **bold** and centered at the top of the page. The text of the abstract is started by leaving one line space with 1.5 line spacing.

3.2. Sections

Graduation booklet should start with the **Introduction** after the first pages consisting of *Cover Pages*, *Submission Form*, *Preface*, *Table of Contents*, *Abstract, Index of Figures, Index of Tables* and *Symbols and Abbreviations.* The Introduction and the following chapters constitute the main body of the book. This main body consists of the following headings:

1. Introduction,
2. Theoretical background,
3. Design,
4. Simulation studies,
5. Experimental studies,
6. Results,
7. Comments and evaluation.

Sources without numbering after this main body

Appendices

Curriculum

Vitae

takes place. Each of the 7 main sections listed above starts on a new page. Section Titles are all capitalized. References, appendices and curriculum vitae titles are also capitalized. There is no page limitation in the main body. However, it should not be filled with unnecessary information. The texts, figures and charts used must be related to the study. Off-topic text and figures should not be included.

3.3. Section Contents

The contents of the department are explained in detail in the file named "***Graduation Book Writing Template.doc", which is*** available on the department web page and is attached to this guide. Students can download this file and use it directly as a template for their Engineering Design or Capstone project books. They can only edit the content of this file according to their own work without changing its format.

Since the chapter contents are given in the file named ***Graduation Book Writing Template,*** they will not be repeated here. Students can continue with the template file after this stage.

SOURCES

[1]. IEEE Author Digital Toolbox (2012) homepage on IEEE [online]. Available: http://www.ieee.org/publications_standards/publications/authors/authors_journals.html

[2]. Instructions to Contributors (2012), The Turkish Journal of Electrical Engineering & Computer Sciences, homepage on TUBITAK [online]. Available: http://journals.tubitak.gov.tr/elektrik/i2celk.pdf

APPENDICES

Annex 1. Engineering Design File Submission Requirements Form

This form is for students to check whether the Engineering Design Project can be submitted. Project students can submit the project file if they can answer YES to all the questions asked in the form. After answering YES to all questions, the project file is checked by the advisor and his/her signature is taken.

Engineering Design File Submission Requirements Form is available on the department web page under the **Engineering Design** sub-heading along with other related forms. The direct access address of this page is below.

https://www.ktu.edu.tr/eee-dersmuhendisliktasarimi

All forms and guidelines related to Engineering Design are available on this web page. Projects that meet the submission requirements can be found on this page.

Engineering Design Online Project File Submission

They are sent to the department head via the interface. How to name the files to be submitted on behalf of the group is explained in the Introduction section of this file. These explanations should be followed.

It is recommended to check the department web page for all updates. The web page of the department can be accessed at http://eee.ktu.edu.tr/.

Annex-2. Graduation Project File Submission Requirements Form

This form is for students to check whether the Graduation Project can be submitted. Project students can submit the project file if they can answer YES to all the questions asked in the form. After answering YES to all questions, the project file is checked by the advisor and his/her signature is taken.

The Graduation Project File Submission Requirements Form is available on the department web page under the **Graduation Project** sub-heading along with other related forms. The direct access address of this page is below.

https://www.ktu.edu.tr/eee-dersbitirmeprojesi

All forms and instructions related to the Graduation Project are available on this web page. Projects that meet the submission requirements can be found on this page.

Graduation Project Online Project File First Submission

They are sent to the head of the department via the interface. This first submission must be made before the final exams until the "Graduation Project Deadline" specified in the academic calendar.

Students who receive a PASS grade **after the presentations of their graduation projects are** required to submit the final revised version of the project book under their own names.

Graduation Project Online Final Submission

They submit from the titled interface. Each student uploads the file under his/her own name, no longer under the group name. The name of this final submission file should be "*Student Number Name Surname.pdf*". For example, if the number of the student who will submit the file is 123456 and his/her name is Ali ÇALIŞKAN, the name of the Graduation Project book file to be submitted is

123456 Ali ÇALIŞKAN.pdf

It will be. The names of the other group members involved in the project work will continue to appear on the inner and outer covers of the book, and the content of the book will not be changed.

ANNEX-3. Engineering Design Evaluation Form

After the Engineering Design project books are submitted, they are presented orally in a presentation program. Each student involved in the project must make a presentation. The total presentation time is 20 minutes per project. This time is shared equally among the project students.

Engineering Design project files and presentations are presented in front of a public jury consisting of 3 faculty members including the project advisor. The jury members grade the project file content and presentations on the ***Engineering Design Evaluation Form***. The passing grade of the students is determined by the average of the grades given by the three jury members.

The Engineering Design Evaluation Form is available on the department web page under the **Engineering Design** sub-heading along with other related forms. The direct access address of this page is below.

https://www.ktu.edu.tr/eee-dersmuhendisliktasarimi

ANNEX-4. Graduation Project Evaluation Form

After the first submission of the Graduation Project books as a group, they are exhibited and presented ***at the Graduation Projects Exhibition***. This exhibition is open to visitors for 3 days. Within the framework of a prepared program, the jury members visit the exhibition and subject the project students to an oral exam at the beginning of the prototype exhibited.

The jury members make an evaluation on the ***Graduation Project Evaluation Form*** according to the content of the project file, whether the prototype works or not, the presentation performance and the answers given to the questions asked and the students are given a grade. The passing grade of the students is determined by the average of the grades given by the three jury members.

The Graduation Project Evaluation Form is available on the department web page under the **Graduation Project** sub-heading along with other related forms. The direct access address of this page is below.

https://www.ktu.edu.tr/eee-dersbitirmeprojesi

ANNEX-5. Engineering Design and Graduation Project Writing Template

The writing format of the Engineering Design and Graduation Project books is the same. Therefore, this template file is valid for both project books. The name of this file is *Engineering Design* ***Writing Template*** for *Engineering Design* and *Graduation Project* ***Writing Template*** for Graduation *Project*.

This file can be opened with MS Word and the Engineering Design or Graduation Project content can be written according to the ready format.

This template file explains how and what should be written under which heading.
Students should replace these descriptions with their own project content.

The template file can be accessed from both the Engineering Design sub-webpage and the Capstone Project sub-webpage.

BACKGROUND

This is the last page of Engineering Design and Graduation Project books. A short curriculum vitae of the project preparers is placed on this page. This curriculum vitae should include the place of birth of the relevant student or students, their educational background, their achievements such as awards, if any, and their publications, if any. Very specific information should not be included in the curriculum vitae. If necessary, this page can be one line spaced.