



**NEAR EAST UNIVERSITY
INSTITUTE OF APPLIED
SCIENCES**

THESIS WRITING GUIDELINES

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1. INTRODUCTION

Graduate School of Applied Sciences (GSAS) of the Near East University carries out Graduate (Master's and PhD Programs) education and research activities in various scientific fields such as basic sciences, engineering, architecture, and marine science. This thesis writing guide has been reviewed, redesigned and updated in accordance with the effective criteria so that it now includes “MA Programs with Thesis”, “MA Programs without Thesis”, “PhD Thesis Writing Guide”, and “Undergraduate Thesis Guide”. In this respect, the objective of updating and reviewing this guide is to set and introduce the basic rules regarding the presentation of undergraduate, graduate and PhD theses as well as completion projects of MA programs conducted without thesis prepared in all departments of the Graduate School of Applied Sciences, and ensure that the theses comply with the updated scientific presentation standards. One other objective of the guide is to establish the rules for term or graduation projects conducted in graduate programs that do not require a thesis. Seminars and similar activities carried out as a requirement of the undergraduate programs are also covered within the guide.

Considering that the disciplines of Applied Sciences cover a very wide spectrum and various disciplines, it may be possible that slight differences in content may occur without affecting the general structure and principles of the acknowledged thesis preparation guidelines. In this respect, this guideline is a basic reference of scientific standards which must be carefully considered and practiced in preparation of a thesis.

Some of the basic principles and details that must be taken into consideration during preparation of a thesis are as follows:

- Ethical rules must be followed,
- This guide must be carefully read in order to be able to meet the requirements, principles and deadline set by the Graduate School of Applied Sciences (GSAS),
- The rules regarding the written work must be carefully applied,
- Previously written theses **must not be used** as an example in order not to make or repeat the previously made mistakes,
- The thesis must be written in concise, clear sentences not open to interpretation,
- The content of the thesis must be in accordance with the thesis adviser's views,

- In order to avoid difficulties, problems or misunderstandings the directorate of the department must be contacted and then, if necessary, the directorate of GSAS must be contacted.

As clearly stated in aforementioned details, all graduate theses written in departments under NEU Graduate School of Applied Sciences must comply with this guide.

2. GENERAL INFORMATION AND CONTENTS OF THE GUIDE

2.1. General Information

All theses of Graduate School of Applied Sciences programs must be written with appropriate computer based word processing programs. It is essential that the electronic thesis copies submitted to the University's Grand Library and Graduate School of Applied Sciences be compiled in a single file and in PDF format. The aim of this is to standardizing the theses information in electronic data basis and shortening the time in delivering the information to readers.

Besides, printed and bound copies submitted to the Grand Library and Graduate School of Applied Sciences must meet certain requirements and standards. Information regarding the standards is provided in this guide.

It would be useful to remind for those who will write a thesis: "Even if they comply with the guidelines presented throughout this guide, do not take previously written theses as an example". In the case of attempting to do so, it is inevitable to repeat the mistakes that might have been unnoticed somehow. Should you have any doubts regarding the format of the thesis, you can obtain help and assistance from the Head of the Department or the Graduate School of Applied Sciences.

2.2. Copyright

It is essential to respect and comply with copyrights during the preparation of the presented work. If there are any copyright requirements (restricted use of data, patent, industrial applications, and so on.) and restricted use of data has been demanded, then, upon the joint request of the author of the thesis and the thesis adviser, the restrictions can be altered through a decision of the Board of Graduate School of Applied Sciences. The Board can also set a time limit for data restriction; for example, three months or an acceptable length of time depending on the request.

2.3. References and Plagiarism

Academic ethics, etiquette, tradition and basic rules of ethics dictate that source of reference must be given when using the work of other scientists. The aim of this is to point out the importance of previously done work and at the same time do justice to those who produced

the works. It must not be forgotten that your work will also merit reference. Besides, being disrespectful to others' rights is an unscientific behavior. To be precise, reference must be given for every topic or piece of information that **has been cited**.

If plagiarism has been found in a thesis, the submitted thesis, and if given, any title shall be rendered invalid.

2.4. Contents of the Guide

The “**GENERAL INFORMATION**” section of the guide provides the reader with information, in no uncertain terms, on how to prepare a thesis. The following section describes the general format of the thesis in detail. The information presented in this section is more about the physical aspects of the thesis, for example, the quality and type of paper, font size and style, and structure. The aim of this is ensuring standardization of all theses written at the departments of Graduate School of Applied Sciences.

The section covering the contents of the guide presents detailed information on the structure, starting from the cover to the last sentence, and binding of the thesis. Of course, while these are explained in detail, information is also given regarding the written language and methods of thesis completion.

Taking into consideration the difficulties that graduate students experience during the thesis completion stage, a section including practical information on Thesis Writing, Presentation and Defense of Thesis has also been included in the guide.

The main sources which were used during the preparation of this guide are listed in the “**REFERENCES**” section. The information given under the Writing, Presentation and Defense of Thesis section is based on internationally recognized and accepted terms and regulations.

3. THESIS FORMAT AND APPEARANCE

Every thesis must be worthy of carrying the title of Near East University and the official seal of Graduate School of Applied Sciences. This can only be achieved through scientific content, quality written presentation and quality print at high standard. In order to help achieve the above mentioned features this section of the Guide gives details regarding these issues, and examples where necessary.

3.1. Paper Specifications and Print

All copies to be submitted to the Graduate School of Applied Sciences and the Grand Library must be printed on white A4 size (210 mm x 297 mm) paper, with weight of 70-100 grams, preferably 75 grams. The entire print must be clean and legible. Unless there is a special reason to do otherwise, all figures, illustrations, tables etc. must be printed according to these specifications.

The print of the bound copies submitted to the Graduate School of Applied Sciences and the Grand Library must **be on one side of the paper only**.

3.2. Page Layout

The paper must be size A4 and the left margin must be 3.0 cm, the right margin 2.5 cm while the top must be 2.5 cm and the bottom must be 3.0 cm wide. The text must be written in block form (justify) and headings start from the left of the line. Explanations to tables and illustrations must be within the text area.

3.3. Font and Type Size

In order to maintain a certain standard the thesis text is written in Times New Roman font and the font size is 12-point. Except for the “**TABLE OF CONTENTS**” section, headings, and explanations to tables and illustrations, the thesis is written in 12-points. However, as long as it can be read easily and not less than 8 points, smaller font can be used in wide, long and similar tables. The text is written in vertical and normal case. Bold type is used in headings. There must be single-space after punctuation marks (For example; comma, full stop etc.).

Proper nouns and private names in a foreign language (such as Latin names for plants and animals) are referred to with their scientific definitions.

Lower and upper symbols must be written in font size smaller than the thesis text.

3.4. Spacing

The texts within the thesis must be **1.5 (one and a half) spaced**. On the other hand, tables, long explanations, marginal notes, endnotes, bibliography, table and illustration notes can be written **single-spaced**.

The gap required to be left before and/or after headings, figure and table headings, thesis text paragraphs is defined as “space”. Just as the space can take place before or after the element in question, spaces before and after can be of different length. Just like line spaces, “space” is also a relative distance measurement and its size depends on the type size chosen.

The block format (justification of all sentences so as to end on the right of the page) is suggested for writing. However, if hyphenation has been avoided, spaces between words occur in long technical texts and such texts are unacceptable. In order to prevent this, it is necessary to hyphenate with great care.

3.5. Pagination

Page numbers must be **10-point**, placed **at the bottom** and **centre of the page** and **3.0 cm** from the edge.

The thesis preliminary pages such as the **ACKNOWLEDGEMENT, DEDICATION, ABSTRACT, ÖZET, TABLE OF CONTENTS, LIST OF TABLES, LIST OF FIGURES, LIST OF ABBREVIATIONS and SYMBOLS** are numbered with lower case Roman numerals “i, ii, iii, iv, v, ...”, and the thesis text between the **CHAPTER 1** and **CURRICULUM VITAE** is numbered as “1,2,3, ...”. A bracket or slash must not be inserted before or after the page number.

3.6. Headings and Sub-Headings

Headings must be written in capital letters and the first letter of sub-headings must be written in capital letters, except for connectors. Only the first letter of third and lower level headings

must be written in capital and connectors such as and/or, with must be written in lower case. All headings must be written in bold.

If there are sub-subheadings between numbered headings and sub-headings they must be in a *italic* and any words, sentences or definitions that need to highlighted can be in *italic*. Regardless of whether it consists of a single word or a sentence or several sentences, the sub-subheadings must not be written in **bold**.

3.7. Referencing

Including the **full list of references** used in a thesis is a requisite. The references are displayed in full on the **REFERENCES** page. Depending on the preference of the department under which the thesis is written, the **REFERENCES** may be given at the end of the thesis or after every Chapter in the thesis. The **REFERENCES** page(s) is numbered in accordance with the pagination and as part of the thesis and is not numbered differently in any form.

All referencing within the thesis must be done according to the method explained below.

Referencing is done according to the author's surname. This method is preferred in many disciplines. When referencing according to surname, for single-author references, the author's surname and then the year the source was published must be written; e.g., (Cavus, 2009). When referencing two-author references it is important to write both authors' surnames; e.g., (Cavus and Ibrahim, 2009). In three or more-author references only the first author's surname is written and the others are referred to with "et al." (Cavus et al., 2007).

If the document given as reference has been obtained over the Internet from a www (world wide web) site, ftp (file transfer protocol) site or similar link, then depending on the situation, either the name of the author (person/institution) and date of access to the web site, or the link to the www/ftp address are given as reference for the text.

For example:

As can be stated in the paper of the Near East University pattern group... (<http://eski.neu.edu.tr/main.asp?sayfa=news/YDU%20POLONYA1> Retrieved 21 April, 2014).

Visit the following web page for further details and information about APA style:

http://www.muhlenberg.edu/library/reshelp/apa_example.pdf

http://www.muhlenberg.edu/library/reshelp/apa_example.pdf

<http://web.calstatela.edu/library/guides/3apa.pdf>

<http://www.pdfindir.com/APA~6-format%C4%B1-t%C3%BCrk%C3%A7e-pdf-1.html>

<http://www.library.mun.ca/guides/howto/apa.php>

Periodic Publications (Journal)

Reference:

Cavus, N., Uzunboylu, H., and Ibrahim, D. (2007). Assessing the success of students using a learning management system and together with a collaborative tool in Web-based teaching of programming languages. *Journal of Educational Computing Research*, 36, 301-321.

Within text:

(Cavus et al., 2007) using at the end of the sentence

or

Cavus et al. (2007) using at the beginning of the sentence

Reference:

Cavus, N., and Momani, A. M. (2009). Computer aided evaluation of learning management systems. *Procedia-Social and Behavioral Sciences*, 1, 426-430.

Within text:

(Cavus and Momani, 2009) using at the end of the sentence

or

Cavus and Momani (2009) using at the beginning of the sentence

Reference:

Cavus, N., and Ibrahim, D. (2009). M-learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology*, 40(1), 78-91.

Within text:

(Cavus and Ibrahim, 2009) using at the end of the sentence

or

Cavus and Ibrahim (2009) using at the beginning of the sentence

Reference:

Cavus, N. (2009a). The evaluation of learning management systems using an artificial intelligence fuzzy logic algorithm. *Advances in Engineering Software*, 41, 248-254.

Cavus, N. (2009b). Selecting an learning management system (LMS) in developing countries: instructors' evaluation. *Interactive Learning Environments*, 21(5), 419-437.

Within text:

(Cavus, 2009a, 2009b) or (Cavus, 2009a) or (Cavus, 2009b) using at the end of the sentence

or

Cavus (2009a, b) or Cavus (2009a) or Cavus (2009b) using at the beginning of the sentence

Journals Published Online

Reference:

Cavus, N. (2009). The application of multi-attribute decision making algorithm to learning management systems evaluation. *British Journal of Educational Technology*, [doi:10.1111/j.1467-8535.2009.01033.x](https://doi.org/10.1111/j.1467-8535.2009.01033.x)

Within text:

(Cavus, 2009) using at the end of the sentence

or

Cavus (2009) using at the beginning of the sentence

Book

Reference:

Keeney, R.L., and Raiffa, H. (1976). *Decisions with Multiple Objectives*. New York, NY: John Wiley & Sons.

Within text:

(Keeney and Raiffa, 1976) using at the end of the sentence

or

Keeney and Raiffa (1976) using at the beginning of the sentence

Book Chapters

Reference:

Hewson, P. (1996). Teaching for conceptual change. In D. Treagust, D. Duit, and B. Fraser (Eds.), *Improving teaching and learning in science and mathematics* (pp. 131-141). New York, NY: Instructors College Press.

Within text:

(Hewson, 1996) using at the end of the sentence
or
Hewson (1996) using at the beginning of the sentence

International Conference

Reference:

Kljun, M., Vicic, J., Kavsek, B., and Kavcic, A. (2007). Evaluation comparisons and evaluations of learning management systems. In *Proceedings of the 29th International Conference on Information Technology Interfaces* (pp. 363-368). Zagreb: University of Zagreb.

Within text:

(Kljun et al., 2007) using at the end of the sentence
or
Kljun et al. (2007) using at the beginning of the sentence

Reference:

Bednarik, R., Gerdt, P., Miraftabi, R., and Tukiainen, M. (2004). Development of the TUP modevaluating educational software. In *Proceedings of IEEE International Conference on Advanced Learning Technologies* (pp. 699-701). Washington, DC: IEEE Computer Society.

Within text:

(Bednarik et al., 2004) using at the end of the sentence
or
Bednarik et al. (2004) using at the beginning of the sentence

Web Sites

Reference:

LMS Strategic Review Committee. (2005). Learning management system (LMS) strategic review: A next generation learning management system for CSU, Chico. Retrieved June 19, 2009 from <http://www.csuchico.edu/tlp/LMS2/LMSStrategicReview.pdf>

Within text:

(LMS Strategic Review Committee, 2005) using at the end of the sentence

or

LMS Strategic Review Committee (2005) using at the beginning of the sentence

ERIC (Database)

Reference:

Frey, B. A. (2005). Enhancing face-to-face courses with a course management system (ERIC Document Reproduction Service No. ED 490408).

Within text:

(Frey, 2005) using at the end of the sentence

or

Frey (2005) using at the beginning of the sentence

3.8. Quotations

When a text from another source is going to be inserted within the thesis text it should be separated from the last line of the main text by **1.5 spaces**, as well as giving **1.5 cm indent** from left and right lines of the main text, and written as a separate paragraph with **10 font size** in quotation marks and *single spaced*. When shifting back to the main text, **1.5 spacing** is required.

3.9. Appendices

Explanations that are going to be incorporated separately from the main text must be presented at the end of the thesis (after “**REFERENCES**”) as “**APPENDICES**”. The purpose of this is to prevent inundating the main text with details. For example topics such as the detailed figure of a device, the details of a test that was used, all raw data collected, the details of the method used are given as an “**APPENDIX**”. The word APPENDIX and its number

must be written starting from the top left and 3.5 cm from the top. Page layout, font and other features of the appendices must comply with the specifications of the main text.

As stated above, the appendices must appear at the end of the thesis and be numbered as if they are the continuation of the thesis. In addition, a separate list of “**APPENDICES**” that includes every appendix must be prepared for the “**TABLE OF CONTENTS**” page, and a separate explanation should be given for each appendix.

3.10. Abbreviations and Symbols

Symbols and abbreviations can be used in thesis writing. The symbols used in the thesis must be given in alphabetical order under the heading “**LIST OF ABBREVIATIONS and SYMBOLS**”. The symbols must be written one under the other after the left margin. Definitions and explanations must be left-aligned.

The **SI** is used in theses written in English (if necessary, other common units may be used for branches of Engineering). In Turkish theses the SI unit system known as **TS 294-297** in Turkish Standards must be used, and while the same standard is used for the unit symbols, a symbol defining a unit must not be followed by a full stop.

In cases where a term consists of more than one word the term can be abbreviated by using the first letter of each word. Such abbreviations must be given once in parentheses the first time they appear in the thesis. The heading of “**LIST OF ABBREVIATIONS AND SYMBOLS**” must be in upper-case, bold and left and right-aligned in the first line of the text body. The definitions of the symbols are written in the same font size as the text and are 1,5 spaced. In definitions consisting of more than one line **a single-space** is used. In this section, all definition sentences after a symbol or abbreviation must start at the same alignment.

3.11. Making Multiple Volumes

If a completed thesis is thicker than 5 cm, the thesis is divided into two smaller volumes, or, if more than two volumes are possible, each being under 5 cm and of the same thickness as possible. Each bound copy is arithmetically numbered in upper case; e.g. Volume I, Volume II. Both copies have the same cover except for the number indicating the number of the

volume. The same writing criteria and pagination is used in all volumes. However, since they are continuation of the first volume, the cover and contents pages of the subsequent volumes follow on from the previous volume. For example, if the first volume ends with lower case Roman numeral “vi”, enumeration in the subsequent volume must start with “vii”. The “**TABLE OF CONTENTS**” pages must be complete with all volumes and be given separately in each volume.

3.12. Binding

All Graduate (MSc) theses are to be bound in **dark blue** cloth or material that looks like cloth and different color or material is unacceptable. All PhD theses are to be bound in **maroon** (as in the NEU emblem). All script on the cover must be golden yellow and written in compliance with the sample given in Appendix 1. A bound copy of the thesis must measure 215 mm x 285 mm.

4. ORGANIZATION OF THESIS CONTENT

The components of graduate theses and the order in which they must appear are given below:

- Cover
- Front (blank) page
- Inside cover page
- Approval page
- Declaration page
- Acknowledgements
- Dedication
- Abstract and keywords
- Özet and anahtar kelimeler (in Turkish)
- Table of Contents
- List of Tables
- List of Figures
- List of Abbreviations and Symbols
- Other lists
- Text
- References
- Appendices
- CV (only for PhD thesis)

Detailed information is given below:

4.1. Preliminary Pages

4.1.1a. Cover

The thesis title must be printed on hardcover and colored cover, starting **3.5 cm** from the top of the page, and be written in **upper case, single-spaced, Times New Roman, and font size should be 18**. If the title is too long to fit in one line it can continue into the following line(s) without requiring hyphenation. The title must reflect the thesis content in the best way (It is recommended to limit the title with no more than 12 words). In addition, since mathematical formulas, chemical equations, symbols and similar non-standard type characters do not appear legible in bound copies, the verbal form must be used instead. The title, author's name, city

where the copy was printed and year of print must be written on the cover. On the back of the bound copy the abbreviated name of the university and the author's name must be visible. Hardbound-Cover page must comply with the sample given in Appendix 1.

4.1.1b. Inside cover page

The “**INSIDE COVER PAGE**” following the blank page after the cover is the identical print of the thesis cover and it is written on the paper that the thesis was written, however, exactly with the same fonts used in the main main cover (the inside cover page must comply with the example given in Appendix 1b).

4.1.2. Approval page

The page, which shows that the jury has accepted the thesis, and that the thesis has been approved by the Institute, is given in Appendix 2. Preferably, the signatures of the jury members and of the Institute Director should be in **blue ink**.

4.1.3. Declaration page

This page must be filled in and signed by the person who is the writer of the thesis. The purpose in this is to have the thesis author declare and countersign that there is no plagiarism within the thesis. The declaration page is **neither numbered nor listed** in the **TABLE OF CONTENTS** page. A declaration page sample is given in Appendix 3.

4.1.4. Acknowledgement

Acknowledgement in a thesis is written on a separate page. People or institutions (such as thesis adviser, institutions that have supported the research) that have made significant contributions to the completion of the thesis are thanked in order and individually. A sample **ACKNOWLEDGEMENTS** page is given in Appendix 4.

4.1.5. Dedication

If necessary, a dedication page can be incorporated in the thesis. **The dedication page does not have a heading** but it must be printed on a separate **page and a page number should be given**. If the thesis is going to be dedicated to anyone, the script should be brief and concise and centered between the text margins. A **DEDICATION** sample is given in Appendix 5.

4.1.6. Abstract and keywords

The “**ABSTRACT**” page must be organized as a separate page, independent of the other sections of the thesis, and be numbered “i”. **At least 5 keywords** are given at the end of the

abstract. The purpose of keywords is to use these words while the thesis is being catalogued and thus, to enable others to find the work (thesis) by searching with keywords. Use a **single-line** between Abstract section and keywords. Keywords are written in lower case except for proper names and used a **semicolon** between them

The “**ABSTRACT**” is the essence of the thesis, and the information it includes gives the reader a brief account of all the information on the subject and thus, by looking at the information in the abstract the reader should be able to decide whether to read the whole thesis. Therefore, the “**ABSTRACT**” must start with a sentence that clearly defines the purpose and scope of the thesis. This is followed by the research topic and the method(s) used. Finally, the main findings must be clearly stated but details must be avoided.

References, tables, graphs, figures, maps or illustrations are not incorporated within **ABSTRACTS**. Normally, the maximum length of the abstract page of a Graduate (Master’s) thesis is 250 words (one page), and of a PhD is 350 words (one and a half pages). The font type and size and spacing of the abstract must comply with the main text.

The heading “**ABSTRACT**” must be aligned in the centre of the page and a space of 3.5 cm must be left from above the page, and must be written in bold type capital letters.

A sample abstract page is given in Appendix 6.

4.1.7 Özet ve anahtar kelimeler

This is the Turkish translation of the English abstract page. A sample **ÖZET** (Turkish abstract) is given in Appendix 7.

4.1.8. Table of contents

The **TABLE OF CONTENTS** page must include the chapters, headings, sub-headings and sub sub-headings written in the main text, and list of references or bibliography, appendices, and if required CV, and other information. First level headings must be written in upper case bold; the first letter of the words of second level headings in upper case and bold, and the other letters are in lower case bold and typed single-spaced; third and fourth level headings are typed in lower case without spacing. Enumeration of headings must be the same as in the main text.

The “**TABLE OF CONTENTS**” starts 3.5 cm below the top of the page and is written aligned to the left margin of the page. The font type and size must be the same as that of the main text. Each heading on the table of contents page must be connected to its page number with dot leaders, and the page number of the heading is written at the end of the line.

A **TABLE OF CONTENTS** sample is given in Appendix 8.

4.1.9. List of tables

If any tables have been included in the thesis, a list showing the order of table titles and page numbers is prepared for the reader to follow easily. The table number, heading and page number given in the list must be the same as in the thesis text and in ascending order.

The “**LIST OF TABLES**” page must start 3.5 cm from the top of the page and written aligned to the left and listing must start from the left margin. The font and point size must be the same as in the text. Each listed table must be connected to its page number with dot leaders, and the page number of the table must be written at the end of the line.

A sample list of **LIST OF TABLES** is given in Appendix 9.

4.1.10. List of figures

If any figures have been included in the thesis, a list showing the order of figure titles and page numbers is prepared for the reader to follow easily. The figure number, figure footnote and page number given in the list must be the same as in the thesis text and in ascending order.

The “**LIST OF FIGURES**” heading must be bold upper case, start 3.5 cm from the top of the page and written aligned to the left and listing must start from the left margin. The font and point size must be the same as in the text. Each listed figure must be connected to its page number with dot leaders, and the page number of the figure must be written at the end of the line.

A sample **LIST OF FIGURES** is given in Appendix 10.

4.1.11. List of Abbreviations and Symbols

The “**LIST OF ABBREVIATIONS AND SYMBOLS**” heading must be bold upper case, start 3.5 cm from the top of the page, and written aligned to the left on the first line of the text area. The font and point size of the list must be the same as in the text and typed single-space. The abbreviations and symbols must be compatible with each field of science.

A sample **LIST OF ABBREVIATIONS AND SYMBOLS** is given in Appendix 11.

4.1.12. Other Lists

In addition to the items listed above, if, as a necessity of the discipline, any other items are used in the thesis, these items are presented as a separate list.

4.2. Text

The text constitutes the main structure of the thesis and consists of several chapters. The purpose of the text is to narrate the work to the reader in a thorough, clear and explicit manner. Depending on the discipline and provided that it follows the rules set in this guide, the text comprises an introduction, main chapters, conclusions and/or discussion sections and is written with no page limitations (APPENDIX 12).

If footnotes are to be given, they must be placed at the end of the related page and typed 2 points smaller than the font size of the text. Footnotes must be separated from the text by a thin line. If more than one footnote has been used, **1 space (1 line)** must be left between each footnote. As with the other parts of the thesis headers or footers do not appear in the text.

Text chapters are sequentially enumerated with Arabic or Roman numerals (For example: CHAPTER 1, CHAPTER 2 etc. or CHAPTER I, CHAPTER II etc.). In addition to the chapter and its number, a brief and informative heading must be written on the content of each chapter. For example: Write **CHAPTER 1** in the first line and write **INTRODUCTION** at the second line. The text starts **2 (two) lines** below the heading.

Except for the first and last pages, all pages of the text must have a margin of 3.0 cm at the top and on the left, and a margin of 2.5 cm at the bottom and on the right and must be fully used unless a table, figure et cetera has been incorporated in the page.

If included, elements other than plain text must be organized according to the definitions below.

4.2.1. Illustrative materials

Illustrative materials are tables, figures, graphs, maps, and illustrations et cetera which are necessary to complement the text. The author of the text places these materials in the text where he sees appropriate but as a general rule they must be placed as close as possible to the part where they are mentioned. The table number and heading is placed one line above the table. On the other hand, the figure number and the figure text are placed one line below the figure. The first letter of the first word of the title is written in upper case form and the rest of the letters are written in lower case form. For example; Graph 1: Distribution of population

If the illustrative material fills up half or less of the page then the page may include text as this will fill the page. In such cases 3 lines are left between the text and the illustrative material.

All items under “Illustrative materials”, including Appendices, are put in ascending order starting from 1, e.g. 1, 2, 3, ..., or a decimal system that shows the heading number may be used; for example, for figures and tables 1.1, 1.2, 1.3 etc. or for **APPENDICES**, APPENDIX 1, APPENDIX 2, APPENDIX 3 etc.

If the figure, table or appendix continues on subsequent pages there must be a notation at the top of the page indicating that it is continued; e.g. “**Table 1 Continued**”.

Table and figure numbers and headings must be prepared in the same font and point size used in the text. If different font or point size is going to be used they must be used for all tables and figures. If the font or point size is different from that in the text it must be legible. All characters used in illustrative material such as tables, figures, graphs, illustrations must be clear and easily read. Font or point size that is difficult to read must not be used in order to use up less space.

If colored figures, graphs, maps, illustrations or tables have been used each copy must be the duplicate copy of the original in terms of color, appearance, size, resolution and legibility. Different prints or copies that spoil or deform the layout of the page are not accepted. Copies that might fade, or be affected by heat or light cannot be used in the thesis.

Since DVD, CD and similar supplements are part of the thesis, such material must accompany each copy of the thesis and should also include the thesis title, author's name and explicitly state the content of the material.

In the case that the figure, table or other illustrative item does not fit into the page because of their width, the item can be rotated **90 degrees anticlockwise** and printed landscape (lengthways). The number and heading are also rotated 90 degrees. If the number does not fit into the same page with the heading, it should be written on the opposite page and no other text is added to the page.

If a smaller print of a large figure, illustration, table etc. has been produced, the page number and captions must be the same as the original size.

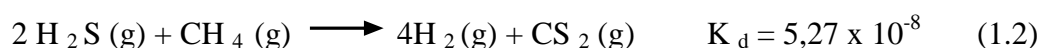
4.2.2 Equations and formula

All kind of formula, equation, et cetera used in the text must be written with appropriate characters and font required by the field of science, use **1.5 cm indent from left**, and bearing in mind that references may be made in the text, must be numbered in parentheses, **1.5 cm inside from the end of the line (right)**, and numbering is based on chapter number and starts from 1.

For example,

$$y = ax + b \quad (1.1)$$

or



4.2.3 Explanatory notes

Short and explanatory notes and attention getting notes that do not exceed two or three lines are given in quotation marks within the text. Notes longer than three lines are given in single-spaced form and given at the top or the bottom of the page without quotation marks.

4.3. References

Selected list of books, periodicals, papers, and other resources referenced or cited during the research, evaluation of the data, and the writing of the thesis must be presented under the

“**REFERENCES**” heading. **REFERENCING** is explained in “Section 3.7.” and all references that comply with this section must be submitted within the text.

“**REFERENCES**” must be written 3.5 cm from the top of the page and aligned to the left. The common practice is to place the list of references at the end of the thesis text but in some Engineering departments placing the list of references at the end of every chapter is also accepted.

REFERENCES page is **not given a chapter number** but **it is enumerated** and the font and font size must be the same as in the text. If the reference does not fit on a single line, passing on the new line but at the beginning of the new line use **0.5 cm indent**. Each reference should be written only once time. References must be written in accordance with APA format and listed by alphabetic order.

Thesis authors are advised to consult their departments to learn the appropriate and acceptable reference style.

Samples of various **REFERENCE STYLES** are given in Appendix 13.

4.4. Appendices

If necessary, explanations that the author does not want to incorporate in the text must be presented as “**APPENDICES**” (after “**REFERENCES**”) at the end of the thesis.

On each appendix page the heading **APPENDIX** and its number must be written 3.5 cm from the top of the page and aligned to the left margin; e.g. “**APPENDIX 3**”. The page layouts, font and other specifications chosen for the appendices must comply with those used throughout the main text. Appendices must be given at the end of the thesis and paginated as they are the continuation of the thesis. Furthermore, a list of “**APPENDICES**” that includes each appendix must be included in the “**TABLE OF CONTENTS**” page, and an explanation must be given for each appendix. Sample of Appendices is given in Appendix 14.

4.5. Curriculum Vitae

A CV should only be presented in **PhD theses** and must be prepared in accordance with the style and regulations determined by the Turkish Higher Education Council (YÖK/HEC). The Curriculum Vitae comprises the name and surname, birth place and date, details of higher

education, scholarships and honors, awards, scientific publications and work experience of the author of the thesis. A sample **CV** compatible with the HEC style is given in Appendix 15.

5. DETAILS TO BE TAKEN INTO CONSIDERATION DURING THE WRITING OF THE THESIS

5.1. Style

A graduate thesis is a formal presentation of the scientific research carried out and completed within a certain period of time so as to be awarded a title. Besides having to be written according to the requirements of the discipline, the style must be comprehensible, clear and flawless.

Grammar rules must always be fully observed and the “**present perfect**” must be used; e.g. “The results of the research carried out, has revealed that the structure of housing and the building materials must be suitable to regional geography for air-conditioning”.

If pronouns have to be used in the thesis singular pronouns such as “I, You” must be avoided.

Refrain from using negative sentences to achieve positive results.

Refrain from using words or sentences that could have different meanings and avoid complex sentences. Remember “simple is good”.

It is worth repeating that there are variations between the scientific styles of each discipline. Therefore, in order to choose the style appropriate to the discipline you are working in, it is necessary to consult the “**Thesis Supervisor**” and “**Department Chair**” and get the correct information.

If necessary, thesis writing guidelines published by national and international institutions can also be drawn upon.

5.2. Thesis Completion Method

After the thesis has been written, the following should be done:

- First, make sure the thesis that has been prepared complies with this guide.
- The department jury list, an unbound copy of the thesis, and **similarity report** must be submitted to the Graduate School of Applied Sciences at least 10 (ten) days before the thesis exam. This period is 30 (thirty) days for PhD students.
- The thesis acceptance form must be signed and submitted to the Graduate School of Applied Sciences in the three days after the thesis exam.

- The changes requested by the thesis jury must be made within 30 (thirty) days after the thesis exam date, and at least five of the bound thesis copies signed by the jury members and new similarity report (after correction) the must be submitted to the Graduate School of Applied Sciences.
- In order for the Graduate diploma to be prepared an official “**WITHDRAWAL FORM UNIVERSITY**” document has to be prepared by relevant official.

6. WRITING, PRESENTATION AND DEFENSE OF THE THESIS

6.1. Introduction

By its very nature, this section is related to the finalization of the research carried out in order to complete the GRADUATE THESIS. The aim is not to inform or lead readers with respect to the research topic, the research methods and devices, or the data evaluation methods. Such issues fall into the domain of experts, and are not among the objectives of this guide. The purpose of the information presented here is to enlighten students of Graduate School Programs about the preparation, writing, presentation and defense stages of the thesis, which they have prepared from the data and findings they have compiled with a great deal of effort to gain a title.

The ideas presented below may be applicable in other disciplines as much as they are in Sciences, however, as already pointed out, as different disciplines may have different requirements it is advised that students of Graduate Programs consult the Department Chair or Faculty Chair about the documents they are allowed to use.

6.2. Thesis Writing

6.2.1. Preparation stage

- **Carefully study everything that could be incorporated in the thesis.** Do not try to sort out the data and findings at hand immediately. Analyze each one individually and decide. It is difficult to add a subject after you have left it out but it is easier to eliminate what you believe is to be redundant. Try to be creative during this stage.
- **Write down each of your ideas as a list.** This will give you the opportunity to see your ideas again and again and to evaluate them. Identify the ones you intend to use and mark the weaker points as secondary, but do not hasten to disregard them. Do not hesitate to change or revise your notes.
- **Avoid outside factors.** Do not be influenced by people who have written a thesis, form your own ideas. Do not forget, it is your thesis you are writing.
- **Prepare a realistic study plan.** Determine where and how you will start, how you will develop the thesis, and how you will finish it.
- **Prepare a realistic study schedule that suits you.** A study schedule is important and motivating in terms of achieving the objective in time.

- **If it is going to help, stay away from your work environment, take a leave.** The attention of your colleagues and other staff can be time consuming. One way to avoid such waste of time and distraction could be to stay away from the environment where the work is being done.

6.2.2. Writing stage

Once you have successfully completed the thesis research stage, carried out the plans mentioned above and most importantly have reached an agreement with your thesis adviser, you can move on to the thesis writing stage.

- **The first step** might be to look once again at the articles and similar documents that you have made use of most during preparation.
- **Start writing from the part you know best.** Usually, a thesis starts with a “**INTRODUCTION**” and ends with “**CONCLUSIONS**” and depending on the requirements of the discipline consists of three to five chapters. It is very rare for a thesis to be written in the order of the chapters. As you write you will be able to decide better which subjects to include in chapters and which to omit. Taking all of this into consideration, it is best to start writing from the subject you know best. In this way, thesis chapters appropriate to the task will be produced and this will have a motivating impact.
- In order to be able to see the mistakes in each of the chapters written in accordance with the NEU Thesis Writing Guide, it is useful to make **draft copies**. So as to prevent any mix up with the drafts it is a good idea to use different colored paper for each draft. The draft that is read most easily is the easiest one for the jury to read, too.
- It is common practice to use **table and figures** in order to explain the thesis better. Once you have determined the place of the tables and/or figures in the main text write the explanations in detail. Using similar sentences in explanations for similar figures and tables, makes the writing process easier and also saves time so **similar sentences can be used where possible**.
- It is helpful to use **draft tables, figures and graphs** in the draft copies as well. In this way, it is possible to make corrections or amendments on them and a better decision can be made on the final version. One other benefit of using draft copies is that it also facilitates the main objective, which is writing the thesis, instead of spending too much time on the computer trying to achieve the perfect shape.

- Any mistakes made with names, places or other proper nouns must be corrected last. Thus, repeating the same errors after correction will be avoided.
- The titles of institutions and organizations must always be written in the same way. For example, do not write “Near East University” and then “Near East”. The correct form must be written every time.
- **The thesis can be improved with the table of contents page.** The “**TABLE OF CONTENTS**” page is of great use to the reader. In addition, it is also of great help to the author. By perusing the “**TABLE OF CONTENTS**” page, the author can see his shortcomings and also study again the topics that affect cohesion, and if necessary change their place within the thesis.
- **Criticism of papers and articles must definitely be taken notice of.** Any criticism made towards a paper that has been presented or an article sent for publication while the research is being done must be taken into consideration. It must not be forgotten that the thesis adviser and jury members will also read the thesis with the same critical eye.
- **The conclusions of the thesis must be genuine.** The reader wants to know what the conclusions are and what purpose they may serve. There is no point in repeating the conclusions in the “**RESULTS and DISCUSSION**” chapter.
- **The proposed “FUTURE STUDIES”** must be meaningful and be written clearly. One issue that has to be taken into consideration is to avoid making proposals that have been excluded from the thesis or that will have no consequence. If the proposals are meaningless, it is better not to make them at all.
- **The “INTRODUCTION” part of the thesis should be written last.** Following a careful analysis of what has been said so far, the “**INTRODUCTION**” must be written. Traditionally, the purpose and scope of theses are described in the “**INTRODUCTION**”.
- Before starting to write, if you have compiled what you intend to do as a “**RESEARCH PROPOSAL**”, and your thesis adviser has accepted this, then the “**INTRODUCTION**”, which is the first part of the thesis, can be written easily. All you have to do is change the future tense in the “Introduction” of the “**RESEARCH PROPOSAL**” to simple past tense, and **adapt** it to the work you have done. While adapting changes that have occurred in the meantime and the findings of the research

must be taken into consideration. Comprehension of the thesis as a whole can be achieved with a successful and coherent “**INTRODUCTION**”.

- **During the writing stage refrain from distributing the thesis to the jury members to get their opinion!**
- The thesis is a matter between the student and the adviser, or if there is one, the second thesis adviser. The thesis adviser is always the first authority to comment on the proficiency of the thesis.
- **The written “Thesis” must be checked again!** Do not rush to your thesis adviser thinking “the thesis is finished”. It is useful to read it one last time and check for errors.

6.3. Presentation and Defense of the Thesis

The draft thesis has to go through a few more stages before it is complete. Naturally, the writing stage is followed by the presentation and defense of the thesis and is perceived to be the most important stage. On the other hand, the word “Defense” is disconcerting enough. The presentation and defense of the thesis is done in the presence of jury members and quite often an audience. The main purpose of this stage is to understand how well the thesis has been prepared and that it serves science. Sometimes, due to misunderstanding of this stage it is perceived as the examination of the thesis author.

A successful presentation and defense can be achieved more easily by considering the suggestions made below:

- It is always a good idea to attend and carefully watch presentations and defenses of theses done at the department, faculty or similar places before it is your turn. This will give an idea as to how to deliver a presentation. It will also give a more realistic idea with respect to the communication between the jury members-thesis adviser and the student and their point of interest.
- Talk to your friends and when the opportunity presents itself to other interested parties about the research topic and the work you have covered, and explain what has been done. Listen to the criticism and questions carefully, and determine the missing or extra points in your presentation. It is always a useful method to find the opportunity to deliver the 15-20 minute presentation to your friends in an informal environment and try to understand whether it is comprehensible.

6.3.1. Presentation of thesis

The presentation of the thesis is a 15-20 minute summary of the completed work, which is delivered, depending on the choice and skills of the person who will deliver the presentation, with the use of the devices they prefer (such as overhead projector, video projector etc.). Since the presentation summarizes and explains the completed work to the audience it must be complete, clear and comprehensible, thus, paving the way for only scientific discussions. In short, the presentation must be planned as an educative, concise lesson.

Remember, the work belongs to you and you are the person who knows the content best.

6.3.2. Defense of thesis

“Defense of Thesis” and “Presentation of Thesis” go hand in hand, and the presentation is the first step of both stages and requires teamwork. The team consists of the author of the thesis and the thesis adviser. Some of the points that must be taken into consideration at this stage are listed below:

- Although it is called “Defense of Thesis”, do not see yourself in defense and do not try to defend your view and ideas. Try to do better by EXPLAINING AND ELABORATING. Jury members usually confront you with new views and ideas so instead of ignoring or counter arguing these views and ideas it is always useful to point out their significance and say that they will be taken into consideration.
- Carefully listening and responding to each criticism, question or view put forward by jury members, or, if allowed, by the audience during the question and answer or discussion stage of the defense of the thesis always increases the bonus points. At this point it is best to act, so to say, like a voice recorder.
- It is useful to have a written copy of the thesis results at hand as it would avoid the probability of forgetting due to being nervous.
- Refrain from giving speculative responses on subjects you do not know well. Saying “I do not know” does not mean it will count as a minus.
- Trying to remember every single criticism made during the defense may result in making bigger mistakes. As a result, attempts to write down the warnings made by the jury members for errors regarding the text and their suggestions for changes in the thesis are a waste of time and a guarantee of a correct final version.

- If it has not been already done and if the thesis author intends to write a paper on the findings of the research, it would be appropriate do so immediately since the defense of the thesis is done and the thesis has been accepted.

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SCHOOL INFORMATION SYSTEM WITH CLOUD
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**A THESIS SUBMITTED TO THE GRADUATE
SCHOOL OF APPLIED SCIENCES
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NEAR EAST UNIVERSITY**

**By
ABDULLA JASSIM YASSIN ALDARWISH**

**In Partial Fulfillment of the Requirements for
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Approval of Director of Graduate School of Applied Sciences

Prof. Dr. İlkey SALİHOĞLU

We certify this thesis is satisfactory for the award of the degree of Masters of Science in Computer Information Systems

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Department of Computer Education and Instructional Technology Teaching, NEU

Appendix 3: Declaration Page Sample

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, Last name:

Signature:

Date:

ACKNOWLEDGEMENTS

This thesis would not have been possible without the help, support and patience of my principal supervisor, my deepest gratitude goes to Assoc.Prof.Dr. Nadire Çavuş, for her constant encouragement and guidance. She has walked me through all the stages of the writing of my thesis. Without her consistent and illuminating instruction, this thesis could not have reached its present form.

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Above all, my unlimited thanks and heartfelt love would be dedicated to my dearest family for their loyalty and their great confidence in me. I'm greatly indebted to my father Prof.Dr. Jassim Al Darwish who is indeed my inspiration and the man who led me to the treasures of knowledge. I would like to thank my mom for giving me a support, encouragement and constant love have sustained me throughout my life. I would like to thank my wife Suha for her personal support and great patience at all times.

Eventually, there is a long list of friends that I would like to thank. I can't mention them all but I would like to thank them from all of my heart for their valuable help and support since I was in my early study until now.

To my parents....

ABSTRACT

Information system in schools has an important role in building a positive partnership between parents and school, as well as contributing into the management of the school. The high cost of purchasing infrastructure for information systems constitutes a problem facing schools with limited budget. The major aim in this thesis is to establish a channel of communication for school members by developing an Android mobile application for school information system using cloud computing. The developed system provides services for school, students, and parents by making communication among school (teacher), parent and student easier, and the user can get the information needed from school without formal request. The system consist of two parts such as server and client. There are four types of users with different privilages: Administrator (have full authority), teachers (can perform student related tasks), students (only view their own data), parents (only view their child's data). In this application Java programing language is used together with PHP Web Application language in order to write the server part of the system. The SQL database language was used to retrieve data from MYSQL Server Database.

The developed school information system is helpful to families such that the families can get information about the status and development of their children from anywhere and at any time of the day. The application increases the level of communication with the parents, and such features enable parents to follow school activities, monitor their child's behavior, verify possible absences, learn the grades etc. with the help of a mobile device anytime and anywhere.

Keywords: School information system; mobile application; mobile cloud; communication; school management

ÖZET

Enformasyon sistemleri, ebeveynler ile okulun pozitif ilişki kurmaları açısından ve ayrıca okul idaresi bakımından çok önem taşımaktadırlar. Fiyatların yüksek oluşundan dolayı birçok okul, kısıtlı harcamalarından dolayı Enformasyon teknolojisine gerekli yatırımı yapamaz hale gelmiştir. Bu tezin ana temeli, Android tabanlı ve cloud kullanan bir mobil sistem geliştirerek okul üyeleri arasındaki iletişimi sağlamaktır. Geliştirilmiş olan sistem sayesinde öğrenciler, ebeveynler, ve öğretmenler arasındaki iletişim kolaylaşmış ve kullanıcılar okul hakkında herhangi bir bilgiye kolaylıkla ulaşabilmektedirler. Sistem şu servisleri sunmaktadır: Kullanıcı giriş-çıkışlarının kontrolü, sınıfların kontrolü, verilen derslerin kontrolü, sınıf arama, akademik takvim, notlar, bilgi, sisteme giriş kayıtları, haberler, özel mesajlar, fotoğraflar vs. Sistem iki bölümden oluşmaktadır: Server ve client. Sistemde dört değişik kullanıcı bulunmaktadır: İdareci (tam yetkili), öğretmen (sadece öğrenci ile ilgili işlem yapabilir), öğrenci (sadece kendi verilerini görebilir), ve ebeveyn (sadece kendi çocukları ile ilgili veriyi görebilir). Client bölümünde Java programlama dili ve bununla birlikte PHP ağ uygulama dili kullanılmıştır. Server bölümünde ise SQL veritabanı kullanılmıştır.

Geliştirilmiş olan okul idare sistemi, ailelelerin kendi çocukları hakkında anında ve herhangi bir yerde, herhangi bir zamanda bilgi almalarını sağlayacağı için ailelere faydalı olacağı düşünülmektedir. Sistem, ebeveynler ve okul arasındaki iletişimi artırıp ebeveynlerin çocuklarının davranışları hakkında anında haber almalarını da sağlamaktadır. Aynı zamanda, çocuklarının okula zamanında gidip gitmediklerini de kontrol etmelerine yardımcı olmaktadır.

Anahtar Kelimeler: Okul enformasyon sistemi; mobil uygulama; mobil cloud; iletişim; okul idaresi

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LIST OF ABBREVIATIONS

3G:	Third Generation
AAA:	Authentication, Authorization, Accounting
API:	Application Programming Interface
ASP:	Active Server Pages
BBM:	Blackberry Messenger
BTS:	Base Transceiver Station
CPU :	Central Processing Unit
CSS:	Cascading Style Sheets
C-TAM-TPB:	Combined TAM And TPB
ENISA:	European Union Agency for Network and Information Security
GPRS:	General Packet Radio Service
GPS:	Global Positioning System
HA:	Home Agent
HTTP:	Hyper Text Markup Language
IaaS:	Infrastructure as a Service
ID:	Identifier
J2ME:	Java 2 Micro Edition
JME:	Java ME, A Java Platform
JSON:	JavaScript Object Notation
MAvBT:	Mobile Application via Bluetooth Wireless Technology
MRTPS:	Manage Relation and communication between the Teacher, Students and Parents
NIST:	National Institute of Standards and Technology
PaaS:	Platform as a Service
PDA:	Personal Digital Assistant
PIM:	Personal Information Manager
RAM:	Random-Access Memory
R-JSON:	Reverse JavaScript Object Notation
S3:	Simple Storage Service

CHAPTER 1
INTRODUCTION

Information management for companies or academic institution has become a necessary feature to keep up with the developments in information technology and media. Therefore, information systems have become very important and useful for all sectors. The most important reason for using information systems is the speed in the exchange of information and the provision of adequate information. Scientific institutions, including schools need systems to manage the data and relationships between stakeholders (Hohlfeld, Ritzhaupt and Barron, 2010). The school information system constitutes the topic of this thesis. The author developed school information system with the aim of helping the students and parents to communicate with school easier compared to how it was before. This system was developed based on cloud computing, as well as author designing and developing new mobile application for school information system. The limitations faced by previous systems and mobile applications were into account, such as the limitations in mobile device resources (processor limitation, capacity of storage, battery life) (Gao and Zhai, 2010).

This thesis focuses on the challenges in the development of mobile applications and the requirement of school information systems, and it first discusses the implementation of the appropriate solutions for challenges, and then how the requirements of school information systems can be met. The thesis takes advantage of the cloud computing characteristics and presents it as one of the solutions to difficulties and talks about the limitations such as reducing costs, providing unlimited storage space and high computing capabilities, as well as the implementation of the processing outside mobile resource as an important feature, as it frees from the limited processing in mobile and the preservation of the battery life (Verma, 2012; Hung, Tuan-Anh and Huh, 2013).

1.1 Thesis Problem

The traditional ways of communication between parent and teacher in school information system such as phone, messages, mobile and emails are no longer sufficient to meet the growing need for information from school (Gefu and Yuan, 2013). Based on the limitations on these traditional methods such as not being available for use all the time from anywhere, the amount of information that is provided by school to parents is argued to be insufficient. In addition to this, there is sometimes the high cost of communication.

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APPENDICES

Appendix 1
USER MANUAL

MRTPS is a mobile application developed by the author. MRTPS aimed to allows the possibility for the users (teachers, parents and students) to exchange information and communicate with each other, also it provides features to help the administrator to manage the system from mobile. The application used cloud services such as data stored, and data retrieval. MRTPS operates based on Android operating mobile system.

The user's manual consists of three sections:

- *Application requirements*

The minimum requirements for running MRTPS on mobile are:

1. Mobile devices with android 4.0 operating system or more.
2. The application is compatible with Android 4.1.2 API level 16.
3. The application requires connection to Internet on mobile.
4. The screen resolution and size it should be 240dpi - 480x800.

- *Getting and installing application*

The user can get a MRTPS application from the site of a school or received an email with application as an apk file format. The apk file should be installed on the mobile device. For specific instruction on how to install application on specific device refer to device's manual. User ID and password are delivered to user from school.

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