

# GIRNE AMERICAN UNIVERSITY FACULTY OF ENGINEERING

#### **DEPARTMENT OF COMPUTER ENGINEERING**

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CEN 401/402 - GRADUATION PROJECT

"Graduation Project Report Writing Guideline"

Prepared By,

Xxxxx xxxxxx (03030003030) Yyyyyy Yyyyy (04040004040)

Supervised By,

Zzzzzz Zzzzzzz

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## 1 INTRODUCTION

Your graduation project constitutes and important phase of your future career. In preparing and defending this document, you prove that you have gained essential skills of research and implementation as well as the ability to effectively communicate the results to an audience.

To assist you and your project supervisor in this process, the Faculty of Engineering has prepared this Graduation Project Report Writing Guideline. The goal here is to help you prepare a report that looks professional and renders your findings easily accessible to your readers.

## **2 REPORT AND PRESENTATION**

At the end of the semester announcements are posted on the announcement boards and at the GAU e-learning web site showing the date, time and place, and other details, of the graduation project juries. A copy of the report should be brought to the jury by the defending students.

You must defend your project in front of the Jury members. You must answer all questions of the Jury members. You should also be able to answer any questions asked by the audience. Therefore, you must be thoroughly prepared to defend any, and every aspect of your project material, and perhaps any material closely related to your project topic.

Remember that, your presentation must be supported by slides which will be reflected by data show projectors. It is advised that you make the necessary laptop/data-show connections and/or any other arrangements prior to your presentation schedule.

## **3 FINAL COPIES**

After the project presentation, you should make any changes or corrections requested by the Jury members, and prepare final plastic bound copies for submission. Each copy must be written on one side of white plain 80 gr paper using a laser printer. The copy center on campus will help on this matter, by charging a reasonable price.

Together with the final plastic bound copy of your report you must also submit a CD containing:

- The MS Word document of the report
- The Acrobat Portable Document Format (PDF) version of the report
- The softcopies of all the documents which were used as references, forms etc. (If applicable)
- The folders of the software and/or data used for the project (If applicable)
- If the final product is an application software package, the installation program created by you (if applicable)
- If any third party software components are used, the component files (if applicable)
- Any other contents which will be required by the project supervisor.

Also, the PDF version of the report must be submitted electronically to the GAU e-learning web site.

## **4 ORGANIZATION AND REQUIREMENTS**

Reports are organized into three sections:

- 1. Preliminary Matter
  - (a) Title Page
  - (b) Table of Contents
  - (c) List of Tables
  - (d) List of Figures
- 2. Text (Introduction, Chapters and Conclusion)
- 3. Back Matter
  - (a) References
  - (b) Appendices (optional)

In the following Sections, each of the above requirements is explained in detail.

## 4.1 Preliminary Matter: Requirements

Preliminary pages are paginated separately from the rest of the text. Use lower-case Roman numerals at the bottom of pages. Title page is not numbered and should not be included in the Table of Contents.

Begin numbering with the Table of Contents, page ii. Continue using the lower-case Roman numerals up to the first page of the Text. (page 1 of Chapter 1 or Introduction). Specific requirements and examples for each part of the preliminary matter follow.

#### 4.1.1 Title Page

You must use the cover page of this "Graduation Project Report Writing Guideline" as a template of your own reports cover page.

#### 4.1.2 Table of Contents

The Table of Contents introduces the reader to your text, indicating its contents, organization, and progression. It should make access easy, not overwhelm the reader with detailed index of the contents. The Table of Contents Page of this manual constitutes an example. The following list of requirements is necessary:

- On a separate page
- Margins: left 2.5cm, right,top and bottom 2.0cm
- Typeface and size: arial, poit size consistent with the respective headings
- No underlinig or italics
- Entries must be consistent, in both style and substance, with headings as they appear in the text (wording, capitalization, style of numerals, etc.)
- Length: may run more than one page; do not type "continued" at the end of the first, or at the beginning of the second page
- Each entry should have tab leaders and corresponding page reference numbers must be aligned correctly.

#### 4.1.3 List of Tables, List of Figures

These are separate pages. Obviously, only theses which use tables, figures or illustrations require these lists. Both lists follow essentially the same format, which resemble the Table of Contents. The following rules apply for these pages.

- Margins; left 2.5cm; right, top and bottom 2.0cm
- Typeface: arial, 12 point size
- No underlinig, boldface, or italics
- Order: List of Tables, List of Figures, List of Illustrations
- Make entries for every table title and figure caption
- Entries must be consistent, both in style and in substance, with the titles and captions as they appear in the text (wording, capitalization, style of numerals, etc).
- Abbreviations may be used, but not paraphrased; the entry must match the title up to the point of abbreviation
- Length: may run to several pages
- Numbering of each table, figure or illustration within the text must contain Chapter number and Table/Figure/Illustration number, separated by a dot. For example, Figure 1.2, Table 3.5, etc.

## 4.2 Text

The text of the project report should be organized logically according to the nature and range of the project work being reported. The report must begin with an Introduction, as a separate Chapter, which includes a clear explanation of the goals of the project. The student(s) should include a clear explanation of their topic, a record of the results obtained, and interpretive discussion of the results. The organization of the project argument will vary with the discipline, but the argument must be logically presented and supported with facts. A summary of the significant findings of the study should also appear within the text of the report. Main headings within the text should be consistent with the Table of Contents.

Every report must include at least the following chapters: Introduction, Method, Results and Discussions, Conclusion.

Introduction chapter must clearly state the project aims and the task which was worked on.

Method chapter should include the descriptions and the reasoning behind the selection of specific methods, algorithms, software tools, hardware tools etc. which were used during the course of the project to perform the required tasks. All implementation details and discussions should be made in an organized form under this chapter.

Results and Discussions chapter should provide the reader with the discussions on the collected results and/or achieved final product capabilities as the result of the graduation project. If the project was not completed, until which stage of the project is finished and the reasons why the project was not completed should also be discussed under this chapter.

The Conclusion chapter should conclude the report by stating the task, the difficulties faced, experiences gained, results achieved and final thoughts on the project. Typically the conclusion should not be longer than 2 pages and not less than a half page. (i.e. not a 5 lines paragraph)

Section and/or Subsection organization of the chapters should be discussed and advised by the supervisor of the project. It is the student's responsibility to consult his/her supervisor about the draft version(s) of the report in a timely fashion.

### 4.2.1 Margins

As noted throughout this manual, you must maintain margins of 2.5cm on the left, and 2.0cm at the right, top and bottom of the page. The extra width of the left margin accommodates the binding.

#### 4.2.2 Justification

All text must be (fully) right and left justified, just like this manual is written.

#### 4.2.3 Paragraphs and Indentation

The first line of all paragraphs should be indented by one tab space, or 1.5cm, which provides sufficient guidance to your reader's eye. The indentation must be consistent throughout the text.

#### 4.2.4 Spacing

Double-space the entire text. Materials in tables, appendices, and block quotations, individual footnotes and reference entries may be single-spaced. Spacing in the Table of contents, List of Tables, List of Figures should conform closely to the spacings illustrated in the List of Tables of this manual. The biographical sketch, if included, must be single-spaced.

#### 4.2.5 Pagination

The text, beginning with the first chapter should be numbered consecutively. Page numbers must be placed 1.5cm from the bottom center of each page. Title

#### 4.2.6 Typeface and Size

Arial typeface with 12 point size should be used throughout the text.

#### 4.2.7 Tables, Figures and Illustrations: General Comments

Tables, figures and illustrations must serve the reader, support your text, and conform to standards in your field. The titles must be coordinated with the

List of Tables and List of Figures. Numbering of Tables and Figures must be done sequentially, including the Chapter number in which it is placed (for example, Figure 2.1, 3.2, etc).

Captions for Figures, Tables and Illustrations must be placed at the bottom of each, and centered, as shown in the following example:

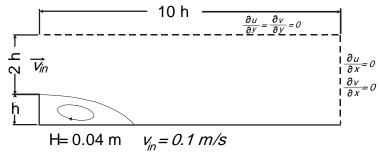


Figure 3.2 Geometry of the flow over a backward facing step.

If the table, figure or illustration is too wide for the page, Landscape may be used, the caption appearing at the bottom of the table, figure, or illustration (at the right of the page). If the table is too long for one page, the table must be continued on the next page, the title not repeated on the next page, instead, center "Table of Contents contd." at the top of each succeeding page until the table is completed. Table caption must than follow. If the table is oversized, try to redesign the table to fit the page. If this does not solve the problem, you may reduce the table proportionately, but remember that the captions must still conform to the typeface and size standards of the text.

For oversized figures or illustrations, you may opt for redesigning or reduction as well. Large illustrations may be folded, but the folded part must be shorter than the actual page by at least 2cm. Extremely large illustrations may be included in a pocket, and placed at the inner side of the back cover while binding.

#### 4.2.8 Equations

If your report includes equations, each equation must be written using a proper, standard scientific notation. Each equation must be centered on a separate line of text and numbered on the right, using Chapter number and equation number, separated by a dot, as in the following example:

$$\frac{x^2}{2} + \sqrt{x_0 + e^{-x^2}} = \frac{d}{a} \tag{1.2}$$

In-line equations, or expressions may also be used, as follows:

... realising that  $x^2 + y^2 = 1$ , it can be concluded that .....

Note that the text contents of the equations are in italic Times New Roman.

#### 4.2.9 References to Tables, Figures, Illustrations and Equations

While referencing a table, figure, illustration or an equation or a series of these within the text, abbreviation as shown in the following examples should be used:

- Eq. 1.2
- Fig. 3.1
- Table 4.1

#### 4.2.10 Chapter, Section, and Subsection headings

Chapter, Section and subsection headings must all be typewritten in bold, with the following rules:

 Chapter headings should start at a new page, starting at 5cm below the top of the page (or 3cm below the top margin), left justified, Chapter no in Roman numerals first, followed by the Chapter Title in capital letters, and with 16 point size. For example:

## 2 METHOD OF SOLUTION

Section headings may start anywhere within the text, after a triple space of
the text of the previous section. Section titles contain Chapter and Section
numbers separated by a dot, followed by the Section Title in small letters, the
first letters of main words being capital. Section headings should be in bold,
14 point size. For example:

# 2.3 Drawbacks of the Procedure and Suggestions

Subsection headings should be written similarly as section headings, but with
 12 point size, and contain Chapter number, Section number and Subsection
 number, separated by dots. For example:

#### 1.3.4 Implicit Solution of Equations and Numbering Scheme

#### 4.3 Back Matter

The back matter of the report consists of the References (Bibliography or Literature Cited) and Appendices. The back matter is paginated consecutively from the last page of the text. The back matter, including the appendices, must meet the same margin requirements as the rest of the report.

#### 4.3.1 References

It is very important to note that every work cited in the text, whether it is a book, Journal Article, Thesis, project, seminar notes, or even personal communication, must be referenced. Also, and most important, any work used which is not the actual work of the student, must be cited, and referenced. Any work done by others, and presented in a project report as though it is the work of the authors of the report, may be treated as plagiarism, and is liable to punishment in the bylaws of the University. Therefore the students must pas utmost attention to this matter, since, if such a situation occurs, the degree awarded to the student may, in fact taken back at any time later on.

The citations in the text must be as in the following example:

... [1] developed the well known SIMPLE procedure in which..... Later on, Raithby and Schneider examined the convergence behavior of this method [2]..."

In the references, the citations must be referenced in the order which they appear in the text of the report. For example:

- [1] Patankar, S.V., and Spalding, D.B., A Calculation Procedure for Heat, Mass and Momentum Transfer in the Three-Dimensional Parabolic Flows, Int. J. Heat Mass Transfer, Vol 15, 1787-1806, 1972.
- [2] Raithby, G.D., and Schneider, G.E., Numerical Solution of Problems in Incompressible Fluid Flow, Num. Heat Transfer, Vol 2, pp. 417-440, 1979.
- [3] Roache, P.J., Computational Fluid Dynamics, Hermosa Publishers, Abuquerque, New Mexico, 1972.
- [4] Tekeli, H., Personal Communication, 1995.

#### 4.3.2 Appendices

Discuss with your Supervisor the need for appendices, carefully considering the value of the material you proposed to include. How does the material relate to the rest of your text? Does including the material violate any copyright? Some material often included in the appendices, such as computer printouts, may be so lengthy that placing it in the text would disrupt the reader's attention to your material. Pay attention that, any appendix you place in your report must be cited in the text of your report.

Appendices must be designated with a letter (Appendix A, Appendix B, etc) each starting on a fresh page, and a title. Each appendix must be listed in the Table of Contents. All appendices must meet the usual margin requirements.