# UNIVERSITY OF JORDAN

## School of Engineering and Technology

## Mechatronics Engineering Department



Graduation Project Format Guidelines

May, 2009

# General Format Guidelines

## A- **Order and Content:**

The report will typically comprise the following sections:

### 1- Preliminaries
   a. Title page
   b. Certificate page.
   c. Acknowledgment: (optional)
   d. Table of Contents
   e. List of Figures
   f. List of Tables
   g. Nomenclature
   h. Summary/abstract
   i. Dedication (optional).


### 2- Body
   a. Introduction
   b. main text
   c. conclusion
   d. footnotes (if any)

### 3- References
   a. Bibliography
   b. Appendix


## Preliminaries

**Title (Cover) Page:** In the first page of the report (**not to be numbered**), University, College, Department, Project title, Student and Supervisor Names and Date have to be included. Student should use **black color only**.


**Acknowledgment (optional):**  A student can acknowledge those who contributed towards the accomplishment of his/her project work.

**Table of Contents:**  In this table, the report contents with respective page numbers have to be listed.

if your report is longer than a few pages. This:
- lists the sections and sub-sections and page numbers
- provides a list of diagrams, tables and appendices (if used)

**List of Figures:** In this section, all figures in the report are to be listed together with respective page numbers.

**Figures (including photographs, drawings and graphs)** - Figures are numbered consecutively throughout the manuscript with Arabic numerals. The numerals and **title (legend)** for a figure are **placed below it** and start at the left margin at the bottom of the page.
 If the figures are drawings or photographs, they may be grouped on a single page. When several photographs or drawings are used, should be their explanation on the same page.
Photographs or other illustrative materials must be of high quality. All labels (letters, numbers, arrows, etc.) on the pictures must be permanent. All photographs must be originals.
Tables and figures should be placed as close as possible to the text where they are first cited. Tables and figures in the appendices should be numbered consecutively following those in the text.

**List of Tables:** In this section, all tables in the report are to be listed together with respective page numbers.

**Nomenclature:** In this section, all symbols used in the text have to be properly defined including the units.

**Summary/Abstract (maximum of one page):** In abstract, students should introduce the problem, state the approach and scope of the work, and summarize the findings of the project. Reports submitted by multiple students should include a paragraph at abstract that clearly specifies the author of each section of the report.

## Body

The body of the text is the most important part of the report. This part should be organized into sections and should have appropriate headings and subheadings.

**Introduction:** should present a preview of the organization of the final report Includes background, statement of the problem, objectives, scope of investigation and method of approach, literature survey and report overview.

**main text** : discusses the data/information obtained in the study and the analysis of the data/information. If it is an empirical piece of work, it presents the methodology, sample and data, results, interpretation, analysis and implications of the results and limitations of the study. In other words, the main text documents the actions and outcomes of the graduation project.
it should include the Design / Design of Experiment / Software Development/ Mathematical Model.

**Conclusion:**  should be derived directly from the results. It summarizes the findings in light of the objective of the graduation project. <u>It should also comment on the possibility of future work in the area.</u>

**Footnotes**:  may be used to explain or amplify materials in the main body, acknowledge quotations or sources, and provide cross-references to other sections of the body. Footnotes should not distract the reader and should be used only when necessary and infrequently. They should be serially numbered throughout the text, using superscript Arabic numerals. They should then appear in an appendix at the end of the text (after the bibliography), or at the bottom of the relevant pages.

### Main Text Chapters
The chapters to be included in the reports are as follows:
- Chapter 1: Introduction
- Chapter 2: and Chapter 3 if needed. This is the main body of the report
- Chapter 3: Results & Discussions
- Chapter 4: Conclusions & Recommendations.

## References

References should be listed after the main chapters and before the appendices as in the following format:-

[1]    S.S. Rao, Engineering optimization: theory and practice, 3rd edition, Wiley-Interscience, 1996.    ==➔book
[2]    Y.D. Lee, B.H. Lee, H.G. Kim, An evolutionary approach for time optimal trajectory planning of a robotic manipulator, Information Sciences, 113(4), 245-260, 1999.    ==➔paper
[3]    http://www.sensorsportal.com/HTML/SEN/Pressure.htm.

**Appendices**: if any, should be placed at the end of the report. They usually provide information and data relating to the project that may not be of immediate interest to a normal reader, but may be useful for documentation and reference (e.g., computer printouts, survey questionnaire, newspaper cuttings, photographs, all derivations, tables and figures, data sheets,  program listing, Mathematical derivation… etc.)

## B- Typeface

a. Font style: The font style that should be used in all parts of the report is **"Times New Roman". No other fonts are allowed to appear in the report.**

b. Font size: The used size is dependent on the nature of the text according to the following rules:-

    i. Main text: -
- **Title page**: **16-20 font size** but **all of the information is of one size**.
- **Certificate page**: all **12 font size** except the "certificate" word
- **Dedication page**: **16-20 font size** but **all of the information is of one size**.
- **Acknowledgments page**: **All 12 font size** except the "Acknowledgments" word.

   ii. **Chapter heading**: -                         **18, bold**
  iii. **Section heading**: -                         **16, Bold**
  iv. **Sub-section heading**: -                  **14, Bold**
   v. **Sub-Sub-section heading and below this level**:-   **12, Bold**

## C- Spacing and Margins

The margins required are as follows: Left, Right, Upper, and Lower Margins: **1 inch each**.

1.5 spacing is required in the text.

## D- Word and Text Divisions

Words must be divided correctly at the end of a line and may not be divided from one page to the next.

**Avoid any heading or subheading at the bottom of a page** that is not followed by text.

## E- Language

The report must be in **English**.

## F- Paper

All copies must be on white, **A4 paper**, print should be at least near letter-quality.

## G- Paragraphs

No Spacing between any paragraph and the next one is allowed. Paragraphs should consist of logical number of lines preferably between 4 and 7.

## H- Photographs, Maps, and Charts

Large maps and charts should be avoided. Where necessary, they must be folded to 10.5 x 7.5 inches or smaller; they should be in pockets.

## I- Numbering systems:-

a. **Title numbering**:-
    i. Any given title in the report that appears from the first page of the report (1) and after the abstract should be given a number.
No titles are allowed to appear in the report without the proper numbering.
    ii. The titles appearing in the initial pages of the report that include first page till the abstract are not numbered.
    iii. Titles might be:-

| | |
|---|---|
| 1. Main chapter. | Numbered as 1, 2, 3, etc. |
| 2. Main section. | Numbered as 3.1, 3.2, 3.3, etc. |
| 3. Sub section. | Numbered as 3.1.1, 3.1.2, 3.1.3, etc. |
| 4. Sub-sub section. | Numbered as 3.1.1.1, 3.1.1.2, etc. |

b. **page numbering**:-
    i. **All initial pages** from the front page to the acknowledgements page **are not numbered at all**.
    ii. Pages from table of contents till abstract page are numbered in **roman numbers (i, ii, iii, tec)**.
    iii. Pages from the first chapter till the last page of the report are numbered in the **normal manner (1, 2, 3, etc).**
    iv. Page numbering should appear at the **center bottom of the page**.
    v. There is **no upper limit** on the number of pages of the report. However, in case of reports exceeding 100 pages, information might be divided between main chapters and appendices.

c. Figure numbering:-
    i. All figures included in the report should be numbered and named (titled).
    ii. Numbering system should be **chapter dependent**. That is, all figures shown in chapter 3 (for example) should be numbered as Figure 3.1, Figure 3.2, etc.
    iii. Figure captions (number and name) should be **located below the figure** immediately.
    iv. Figures and their captions should be **centered within the page width**.
    v. A list of all used figures should appear in the report immediately after the table of contents. It should include figure number, title, and the corresponding page.
    vi. Figures should appear in the report after referring to them within the main text (not after that). This means that no figures are to be included in the report if they have no reference in the text.

d. Table numbering:-
    i. All tables included in the report should be numbered and named (titled).
    ii. Numbering system should be **chapter dependent**. That is, all tables given in chapter 3 (for example) should be numbered as Table 3.1, Table 3.2, etc.
    iii. Table captions (number and name) **should be located above the table** immediately.
    iv. Tables and their captions **should be centered within the page width**.
    v. A list of all used tables should appear in the report immediately after the list of figures. It should include table number, title, and the corresponding page.
    vi. Tables should appear in the report after referring to them within the main text (not after that). This means that no tables are to be included in the report if they have no reference in the text.

e. Equation numbering:-
  i. All equations included in the report should be numbered.
  ii. Numbering system **should be chapter dependent**. That is, all equations given in chapter 3 (for example) should be numbered as: 3.1, 3.2, etc.
  iii. Equation number should **be located at the same line of the equation** and should be right justified.
  iv. Equations should be given a single TAB from the left of the page if possible.

f. References numbering:-
  i. All references included in the report should be numbered.
  ii. Numbering system should be report **dependent and not chapter dependent**. That is, references should start numbering from 1, 2, etc.
  iii. References are numbered according to their appearance in the main text and should be written between **two square brackets [1], [2]**, etc.
  iv. Any paragraph or statement that has been taken from any reference should be referred to as a reference. This means that any paragraph or statement without references is the authors' statement that he should defend if asked.
  v. References should be listed after the main chapters and before the appendices as in the following format:-

[1]    S.S. Rao, Engineering optimization: theory and practice, 3rd edition, Wiley-Interscience, 1996.    ==➔book
[2]    Y.D. Lee, B.H. Lee, H.G. Kim, An evolutionary approach for time optimal trajectory planning of a robotic manipulator, Information Sciences, 113(4), 245-260, 1999.    ==➔paper
[3]    http://www.sensorsportal.com/HTML/SEN/Pressure.htm.

## J- CD

A CD is to be **attached to the inner side of the final cover page** of the report. The **title of the project, supervisor name, and the students name should be printed on this CD. It should contain a softcopy of the complete documentation as along as a copy of any programs used in the project, and your presentations.**

## K- Report binding

**Hard Cover** should be used. All other types are not allowed.

## L- Report copies

**Four or five bound copies with original advisor signature** should be Submitted to the ME chair office. A soft copy , your presentations, and all program used of the project should also be submitted.
This should be inserted in an envelope attached to the back cover of each copy.