Requirements of Graduation Project report

Faculty of Engineering & Information Technology

2020

1. **Title (Cover) Page**: This is the first page of the report (not to be numbered). This page provides information to define University, College, Department, and Project title, Student and Supervisor Names and Date.
   In addition, the cover page should contain the following statement:

   Presented in partial fulfilment of the requirements for Bachelor degree in (Name of Specialization).

2. **Dedication** (optional).

3. **Acknowledgment**: A student can acknowledge those who contributed towards the accomplishment of his/her project work. If you have been supported by a company or a scholarship then this should also be gratefully acknowledged.

4. **Disclaimer statement:** (refer to appendix A)

5. **Table of Contents (TOC)**: In this table, the report contents with respective page numbers have to be listed. Make sure that each division down to subsections is included with the right page numbers. Also, make sure that the body of your report is organized exactly as it appears in the TOC.

6. **List of Figures (LOF)**: In this section, all figures in the report are to be listed together with respective page numbers. Make sure that the figures appear in the body of the report exactly as they are listed in the LOF.

7. **List of Tables (LOT)**: In this section, all tables in the report are to be listed together with respective page numbers. Make sure that the tables appear in the body of the report exactly as they are listed in the LOT.

8. **Nomenclature or list of symbols** (optional): In this section, all symbols used in equations in the text or axis of plots have to be properly defined including the units. The order should be as follows:

   a. **Roman** letters (a, A, b, B …, y, Y, z, Z) sorted alphabetically with lower case letters preceding upper case letters.
   b. **Greek** letters (α, β, …, ω, Ω) sorted alphabetically with lower case letters preceding upper case letters.
   c. **Subscripts** used throughout and sorted alphabetically.
   d. **Superscripts** used throughout and sorted alphabetically.
   e. **List of abbreviations**: list the abbreviation used in the document with their definition to the right.

9. **Abstract** should contain a short description of the report (not more than one page). When you write the abstract, imagine that the reader will not read anything else, but you

must get your major point across immediately. Basically, this section tells a short story about your work, and very concisely answers the three questions:

1. *What was done?*
2. *How was it done?*
3. *What were the results?*

This section should probably be the last section written, and will summarize all of the work done. If possible, present some percentage errors in experimental results in comparison with theoretical values.

Do not cite references, tables, figures, or sections of the report in the abstract. Use abbreviations and acronyms only when it is necessary to prevent awkward construction or needless repetition. Define abbreviations at first use in the abstract (and again at first use in the text).

You may want to assess the abstract by asking the following questions:

- Is it condensed and brief?
- If you separate the abstract from the report, will it be useful in providing the most important results, conclusions and recommendation of the report?
- Did you avoid using undefined symbols?
- Did you use passive voice throughout?

MAIN BODY

The front matter is organizational in nature; the actual report begins with the introduction. The body of the report is to be numbered as1, 2, 3 etc. The following items should be included in the main body of the report:

Chapter 1: Introduction

Usually, the introduction includes the following sections without resort to their order:
1. **General background**

2. **Objectives (Purpose or Aims) of the work**. Why is the work done, what do you hope to achieve and what is the propose(s) for carrying out this work?

3. **Significance or importance of your work**. Here you have to convince the reader that the work is worth their attention and is important preferably using market demands and projections for the chemical to be produced.

4. **Organization of the report**. Briefly state how the report is divided and organized.

Chapter 2: Theoretical Background and Previous Work

This part serves two purposes:
- To be aware of the previous work that addressed the topic you are reporting.
- Gives the reader a sufficient background regarding the topic(s) discussed.

Chapter 3: Methodology

In research reports, this section can also be called "Experimental Methods", "Experimental Section", or "Materials and Methods". For experimental work, give sufficient detail about your materials and methods so that other experienced workers can repeat your work and obtain comparable results. When using a standard method, cite the appropriate literature and give the details of theories that were applied.

Describe apparatus only if it is not standard or not commercially available. Describe the procedures used, unless they are established and standard. Note and emphasize any hazards, include precautionary handling procedures, and any other safety considerations in adequate detail so that workers repeating the experiments can take appropriate safety measures.

Methodology chapter should include the following subsections:

Standards and Specifications (Codes):
The student should clarify which engineering standards were applied to this design project and how the design project is expected to satisfy these standards. Include the necessary standards and design alternatives and indicate their possible relevance to your project. As an example, if you are using IEEE 802.11 standard in your design you are expected to go through that standard and include in your Interim Report how you will utilize this standard in your design.

Constraints:
The design constraints should be identified and some discussion on their realization are to be included in this chapter. You may refer to the list of some realistic design constraints as in the following lists:
- Economy (such as budget limitations, cost of similar or related products, maintenance cost).
- Environment (such as power consumption, electromagnetic radiation issues, environment friendly power sources, noise pollution).
- Society (such as assisted living for the disabled and elderly, information security, privacy, social networking and communication).
- Politics (such as designs that promote gender and race equality, products that help national security, designs that help solve common international and national problems.

- Ethics (such as designs that do not violate safety and health issues, designs that respect patents and intellectual rights, privacy issues, honesty, truthfulness).
- Health and Safety (such as public safety, safety of the consumers of the product, safety of workers).
- Manufacturability (such as designs that suit to current manufacturing technology and designs that can be physically implemented).
- Sustainability (such as reliability and durability of the design, designs that support future upgrades, designs that are resilient to a range of environmental conditions).

Chapter 4: Results and Analysis

Summarize the data collected and their statistical treatment. Include only relevant data, but give sufficient detail to justify your conclusions.

This section is most effective if written in the past tense. "The data was taken ..."; "the curve was generated..." However, it is appropriate to say such things as 'the data is well represented by a second order polynomial' since this is a fact that extends into present. Additionally, estimate the error in measuring whatever your objective was to measure.

Tables and figures tend to be the most effective ways to present data. It is extremely useful to include figures in the text at the point where they are being discussed. When graphs or tables will present the ideas clearly, use them, but also include a concise discussion of the graphs and tables focusing the reader's attention on the salient features of data. Do not simply recite numbers or parameters, which should be obvious upon simple inspection of the figures. Moreover, never forget to indicate units.

Chapter 5: Discussion

The purpose of the discussion is to interpret and compare the results. Be objective; point out the features and limitations of the work. Relate your results to current knowledge in the field and to your original purpose in undertaking the project:

- Have you resolved the problem?
- What exactly have you contributed?
- Briefly state the logical implications of your results.
- Suggest further study or applications if warranted.

Present your results and discussion either as two separate sections or as one combined section if it is more logical to do so.

Chapter 6: Conclusions and Recommendation

The object of the conclusion section is:

- To gather all of the important results and interpretations in clear summary form. This can be viewed as the *evidence*.
- Recommend cost-effective feasible ways to improve the performance of the work.
- State what you learned (the actual conclusions that you a drawing).
- State future work and directions, and then list any open problems.
- Do not repeat discussion points or include irrelevant material.

Remember that, there will be many readers who focus only on the conclusion and abstract sections, so it is important that they be well written.

References (Refer to Appendix B: guideline**)**

- **The list of references** should be alphabetized by authors' last names without any numbering. This is very helpful when additional references are added at any stage of the work. if you have more than one work by the same author, order them by publication date, oldest to newest. if no author is given for a particular source, alphabetize using the title of the work; numeric style (Vancouver) can be used as well. The references should be written according to the **American Psychological Association (APA)** format.

- **Citing References:** Tools such Microsoft Word Endnote and Mendeley can be helpful for generating the list of references and citations within your document.

Appendices

A report should be a complete, concise, self-contained document without appendices. These sections contain information not appropriate to any other section. For example, raw data, Analysis of Data, detailed derivations, rest of the calculations etc. may be included in the appendices. For example, you might include a sketch of an improved way to complete the experiment, or to present the data. All appendices and graphs should be attached at the end of the report.

Attachment A:

Proposed Disclaimer Statement Format

The report is a document written by the student(s) and should reflect expertise in different aspects of research methodology and technical writing skills. The supervisor's job is to guide the student so that she/he can achieve the objectives in an efficient way while gaining the skills sought. While maintaining credit the ***disclaimer statement*** is simply a statement protecting the Department and the University from any legal liability claims associated with the use of the results and the methods presented. Its format is as follows:

<div align="center">

DISCLAIMER

</div>

This report was written by student(s) at the (   ) Engineering Department, Faculty of Engineering, An-Najah National University. It has not been altered or corrected, other than editorial corrections, as a result of assessment and it may contain language as well as content errors. The views expressed in it together with any outcomes and recommendations are solely those of the student(s). An-Najah National University accepts no responsibility or liability for the consequences of this report being used for a purpose other than the purpose for which it was commissioned.

Appendix B

Basic Rules

- **Author**'s names are inverted. Begin with last name, followed by a comma, then by middle and first initials. ***Example:*** Smith, M. F. Use "&" instead of "and" when listing multiple authors. ***Example:*** Calfee, R. C., & Valencia, R. R.

- **Date:** The publication date should be enclosed in parentheses. ***Example:*** (1998)

- **Title:** Italicize titles of books and periodicals. Capitalize only the first word of a title and subtitle of a work. ***Example:*** *Curing the crisis: Options for America's health care.*

- **Location:** You should always list the city, but you should also include the state abbreviation if the city is not well known for publishing. You can omit state for the following cities: Baltimore, Boston, Chicago, Los Angeles, New York, Philadelphia, and San Francisco. Place a colon (:) after location. ***Example:*** Springfield, MA:

- **Publisher (for books):** Use the full name of the publisher, but drop *Co., Inc., Publishers*, etc. Retain *Books* or *Press*. ***Example:*** Merriam-Webster.

BOOKS - General Format

Author, A. A. (Year of publication). *Book title*. Edition. Location: Publisher. Page number (s) if appropriate.

One Author

Reference: Kmoisar, L. (1991). *The new feminism*. New York: Franklin Watts.

In-text: (Komisar, 1991, p. 201)

Two Authors

Reference: Strunk, W., Jr., & White, E.B. (1979). *The elements of style* (3rd ed.). New York: Macmillan.

In-text: (Strunk & White, 1979, p.43)

<u>Three to Six Authors</u>

Reference: Pratkanis, A. R., Brecker, S. J., & Greenwald, A. G. (1989). *Attitude structure and function.* Hillsdale, NJ: Erlbaum.

In-text: (Pratkanis et al., 1989, p.50)

PERIODICALS - General Format

Author, A. A. (Date of publication). Title of article. *Title of periodical, volume number,* pages.

- **Date of publication:** Include year of publication, add month and day of publication for daily, weekly, or monthly publications. Enclose in parentheses.

- **Title of article:** Do not italicize the title of article or place quotation marks around it.

- **Title of periodical:** Include the full periodical title, using upper and lowercase letters. Italicize the name of the periodical and the volume number, if any.

- **Volume number:** Give the volume number of journals, magazines, and newsletters. Do not use "Vol." before the number.

- **Pages:**
  1. Give the page numbers for the whole article rather than the first page. ***Example:*** 204-232.
  2. For journal and magazine articles, just include the page numbers with no abbreviation or label. ***Example:*** 28-31.
  3. Only use the abbreviations before page numbers from newspapers. Use "p." for one page (***Example:*** p. A1) and "pp." for more than one page (***Example:*** pp. A1, A6).

ARTICLES

Journal Article - General Format

Author, date of publication, article title, journal title, volume and issue numbers, page number(s);

Reference: Atkinson, R.C., & Shiffrin, R.M. (1971). The control of short-term memory. *Scientific American, 225,* 82-90.

9

In-text: (Atkinson & Shiffrin, 1971, p.87)

Magazine Article

Reference: Kandel, E.R. (2000, November 10). Neuroscience: Breaking down scientific barriers to the study of brain and mind. *Science, 290,* 1113-1120.

In-text: (Kandel, 2000, p. 1119)

Encyclopedia Article

Reference: Warren, S.A. (1977). Mental retardation and environment. In *International encyclopedia of psychiatry, psychology, psychoanalysis, and neurology* (Vol. 7, pp. 202-207). New York: Aesculapius Publishers.

In-text: (Warren, 1977, p. 204)

Newspaper Article - General Format

 Author (s), date of publication; article title, name of newspaper, section title and page number(s).

Reference: Amazing Amazon region. (1989, January 12). *New York Times,* pp. D11, D14.

In-text: ("Amazing Amazon Region," 1989, p. D11)

ELECTRONIC RESOURCES

Electronic Article (From Database)

Reference: Jacobson, J.W., Mulick, J.A., & Schwartz, A.A. (1995). A history of facilitated communication: Science, pseudoscience, and antiscience. *American Psychologist, 50,* 750-765. Retrieved from PsychINFO database.

In-text: (Jacobson et al., 1995, p. 755)

Web Site- General Format

Author (s), date when the site was accessed, article and publication title as well as a [URL]

Reference: Thaller, M. (2007). *Cool cosmos.* Retrieved August 27, 2007 from http://coolcosmos.ipac.caltech.edu/.

In-text: (Thaller, 2007)

Document with Author

Murray, J. P. *Children and television violence*. (1995). Retrieved July 19, 2001, from http://www.ksu.edu/humec/kulaw.htm

Document with No Author, No Date

GVU's 8th WWW user survey. (n.d.). Retrieved August 8, 2000, from

http://www.cc.gatech.edu/gvu/user_surveys/survey-1997-10/
- Begin with the title of the document if there is no author
- n.d. = no date

Personal communications (e-mail, personal interviews, and telephone conversations, etc.)
   Source: email message from John Smith
   Citation: (J. Smith, personal communication, May 16, 1998)

- Personal communication is not available to your readers. Cite it in text only. Do not include it in the reference list. Give the initials as well as the surname of the communicator, and provide as exact date as possible.