FCIS Student Guide for

Final Graduation Project Thesis

Based on international guideline for writing reports and scientific papers includes:

1. Preliminary Pages

All preliminary pages will be numbered by Roman numbers (I, II, III…) at the bottom Centre of the page except the cover page, which should be without numbering. Preliminary pages follow this sequence:

i. Cover page.
ii. Acknowledgment
iii. Abstract
iv. Table of Contents
v. List of Tables
vi. List of Figures
vii. List of Acronyms and Symbols
viii. List of Abbreviations

2. For output on the A4 paper size.

3. **Abstract**

The abstract should present an outline of the project and providing the reader with a brief idea about the project.
It includes the following:

- The problem with basic information about the project.
- Methods used in solving the problem.
- Main results, focusing on newly observed facts.
- Conclusions and argument discussed.

Abstract has to be written last to reflect precisely the content of the thesis, typed as one paragraph and not to exceed 250-300 words. In addition to the English abstract, Arabic abstract must be included.

4. Main Chapters of the Graduation Project thesis

The number of chapters in the graduation project report depending on the specialization or research requirement. In general, it can be divided as follows:

Chapter One: Introduction

The introduction should include:

- Problem Definition

Where the problem of the project must be explained in general terms and be understandable.

- The Significance and Motivation

Expresses the reason for choosing this topic.

- Aims and Objectives

The goals of the project must be clearly stated. There might be sub-goals besides the main ones.

- Methodology

Give a summary of the Scientific methods used in the project.

- Time plan

State time plan in a chart like Gantt's chart.

- Thesis Outline

Chapter Two: Literature Review

Student need to have a good understanding of the relevant published work concerning his / her topic by reviewing major contributions of related studies and articles. Review is very important in evaluating the project work compared to earlier research. As a cornerstone in preparing a high-quality graduation

project, the review should be guided by the student's research objective and linked at all times to the research purpose and rationale.
This chapter includes the following points:

- Theoretical Background

To cover all the basic principles and procedures of the subject matter of the project.

- The previous studies and works

In this section, previous relevant studies and the applicable works should be mentioned in the form of a critical discussion, analysis, showing an awareness of different arguments, theories, and approaches with clarification for their importance to the project.

Overall, the purpose of the literature review is to define and limit the problem, avoid unnecessary duplication, select promising research methods and relate student's findings to previous knowledge and identify areas that need further research.

Chapter Three: System Architecture and Algorithms

This chapter includes the following:

- System Architecture

Showing the main components of the systems and the relations between these components.

- Description of scientific algorithms used:

It is important to mention the name of the algorithm and its' reference, even if the algorithm is very well-known. Also, it is more important to mention whether the algorithms is modified somehow.

Chapter Four: System Implementation and Results

This is the most important part of the graduation project report. In this chapter the results must be summarized, emphasizing the important patterns and

trends. Also, the student may clarify the results through statistics and referring to the tables and figures. This chapter must include the followings:

- Description of materials used (Dataset): Scientific and commercial names of materials used in conducting the project must be detailed with their specifications.
- Description of programs used: Software complete name and brand (including, producing company number of the issue and the year of production) (reason of using this particular program).
- Setup Configuration (hardware): describe the Hardware specifications.
- Evaluation Metrics
- Experimental and Results
  - Present the specific results of the project in organized and logical way; using the same sequence followed in materials and methods.
  - Show the complete results.
  - Make the maximum usage of tables and figures.
  - Display findings and meaningful data only (no raw data).
  - Relate results to the hypothesis.
  - Connect the data to their explanations.
  - Compare results obtained in this project with the results of other researchers.
  - Pay attention to the following:
    a. Avoid repeating the same result.
    b. Avoid omitting negative data and try to find reasonable explanation.
    c. Avoid generalizing specific results.

Chapter 5: Run the Application

- How can you run your application (desktop or web or mobile). Clarify this with screenshots.

Chapter Six: Conclusion and Future Work

In brief, the student must list in this chapter the misconceptions of the used system and suggest ways to overcome these drawbacks. Also, propose ideas

and recommendations for future work to complete the non-achieved goals of the project.

This chapter covers the following:

- Conclusions that can be resolved from the specific results of this project.
- Its importance for the problem to be solved.
- Implications for practical applications or future studies if applicable.
- Recommendations and Logical solutions for future works, in case results are not of the best level.

5. Reference

References may help in evaluating the strength and efficiency of graduation report. The level of references is considered as a measurement for gathering data and the ideas used in preparing the background study of the project.

- use Hindo-Arabic numbers (i.e. 1, 2, 3…) in listing references based on their sequence keeping in mind that numbers must be put in brackets [ ].
- Refer simply to the reference number, as in [3]—do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence: “Reference [3] was the first ...”
- You must refer to references in the documentation.
- For Books: Name of the author. Book title. Name of the publisher. Address of the publisher. Year of publishing.
- For Reports: Name of the author. Report title. The publisher of the report. Year of issue.
- For Internet: The full address and URL (http/…), Last Retrieved on …/…/2023.

Below are examples of references:

[1] A. Mustafa, "Fundamentals of Computer Organization and Architecture", John Wiley & Sons, Inc., 2005.

[2] R.A. Perry, and D. L. Siebers, "Rapid Reduction of Nitrogen Oxides in Exhaust Gas Streams," Nature Springer journal, vol. 324, no. 2 , pp. 657-659, August 1986.

[3] Subhi R. M. Zeebaree, "multi-stage logic based simulation for gate level timing faults detection and diagnosis", PhD. Thesis, University of Technology, Iraq-Baghdad, October 2006.

6. Equations:

- Equations must be numbered in sequence based on chapter number such as: 3.4 i.e. chapter No. 3 equation No. 4.
- Equation numbers, within parentheses, are to position flush right, as in (1)), using a right tab stop.

$$a + b = \gamma \qquad (3.4)$$

a. Number equations consecutively.

7. Figure and Table:

- Figure captions should be below the figures.
- Table heads should appear above the tables.
- Insert figures and tables after they are cited in the text.
- Use **bold 12 point Times New Roman** for Figure captions and Table heads.
- Figures and Tables should be numbered according to the chapter where they are used (i.e. at chapter 3 → Figure 3.1: Figure Caption) (i.e Table 3.1: Table header).