



# **Postgraduate Thesis and Dissertation Writing Guideline**

**Prepared by Postgraduate Studies of Technical  
College of Health & Medical Technology  
and Halabja Technical College**

**2025**

## General Requirements

This Thesis and Dissertation Guideline is designed to provide comprehensive instructions for Master's and Ph.D. students at the College of Health & Medical Technology and Halabja Technical College, Sulaimani Polytechnic University. It outlines the essential principles, formatting standards, and procedural requirements for preparing a thesis or dissertation. Adhering to these guidelines ensures that your work meets the university's academic and ethical standards, maintains consistency, and presents your research in a clear, well-organized manner. The following order is required for components of your thesis or dissertation:

Item	Page Number	Requirements
Title page	Not numbered	Required
Abstract	Not numbered	Required
Supervisor Certification page	Not numbered	Required
Linguistic Evaluation Certification	Not numbered	Required
Examining Committee Certification	Not numbered	Required
Declaration	Not numbered	Required
Dedication	Not numbered	If any
Acknowledgment	Numbered by I	Required
List of Publications	Numbered by II	Required
Table of Contents	Numbered by III	Required
List of Figures	Numbered by IV	Required
List of Tables	Numbered by V	Required
List of Abbreviations	Numbered by VI	if any
List of Symbols	Numbered by VII	if any
Main text (chapters)	Starting from 1	Required
References	Continue numbering from the previous section	Required
Appendix	Not numbered	If any
Page title and Abstract in Arabic	Not numbered	Required
Page title and Abstract in Kurdish	Not numbered	Required

# THESIS AND DISSERTATION FORMATTING

This section provides detailed guidelines on the required layout and formatting standards to be followed during the thesis or dissertation writing process.

## 1. Page Layout

All main body pages must use portrait orientation. Landscape orientation may only be used for oversized tables, figures, or appendices and must be rotated so that the top of the figure is on the left side of the page.

## 2. Type of Paper

The thesis must be printed on Letter-size (21.6 cm x 27.9 cm) or (8.5-inch x 11-inch) and white color.

## 3. Pagination

Pages should be numbered consecutively. The page numbers should be positioned at the bottom, centered from the bottom edge. Check table 1 to refer to the pagination for the preliminary pages of a thesis.

## 4. Length of Thesis

The typical word count for a Master's thesis ranges from 20,000 to 30,000 words, excluding references. For a PhD dissertation, the expected word count is generally between 40,000 and 60,000 words without counting the references.

## 5. Language

The thesis must be written in clear and grammatically correct academic English. Students whose first language is not English are encouraged to have their thesis reviewed by a language editor.

## 6. Margins

These margin settings ensure compatibility with binding requirements. All content, including tables and figures, must fall within the below margin boundaries.

- TOP: 2.5 cm (1 inch).
- BOTTOM: 2.5 cm (1 inch).
- LEFT: 3.25 cm (1.3 inch).
- RIGHT: 3.25 cm (1.3 inch).

## 7. Type and Font Size

Item	Size (point-font)
Font Style throughout the thesis	Times New Roman
Paragraphs and text	12 points of 1.5-spaced lines
Figure captions	10 points of single space line and centered
Table content and caption	10 points of single space line and centered
Chapter heading	Uppercase letters of 16 points in bold and centered
First sub-headings	Title Case letters of 14 points in bold
Second sub-heading	Title Case letters of 12 points in bold
Third sub-heading	Title Case letters of 12 points
Title Page	Please see the attached sample.
Supervisor certification page	
Linguistic evaluation certification page	
Examining the committee certification page	
Table of Contents	
Page number	10 points
List of tables, figures and abbreviations	12 points of 1.5 spaced line
References	12 points of single space line

## 8. Spacing

- The spacing between a chapter title and the first line of the text should be four (4) line spaces.
- The spacing between a subsection title and the first line of the text should be zero (0) line spaces.
- The spacing between paragraphs should be one (1) line space.
- The number and title of a subsection should be aligned flush with the left margin.
- The first line of every paragraph should be indented by 0.63 cm (0.25 inches) from the left margin.
- The spacing between the last line of the text and a table, figure, or illustration should be one (1) line space before and after.
- The spacing after a comma (,) should be one character space.

## 9. Paragraph formatting

- All paragraphs must be fully justified (aligned to both left and right margins).
- The spacing between paragraphs in the body text should be single line space.
- A heading that appears as the last line of a page is not acceptable. Headings must always be followed by at least two lines of text.

- There must be a minimum of two lines of a paragraph remaining at the bottom of a page when a heading appears above them.

## 10. Chapter and Section Structure

- Each new chapter should start on a new page.
- Chapters must be titled (e.g., Chapter One: Introduction)
- All chapters and sections should follow a hierarchical numbering system (e.g., 1.1, 1.2.1)

## 11. Numbering of Headings

Use a hierarchical decimal system to number headings and subheadings (Number of chapters, Number of headings, Number of subheadings):

- 1<sup>st</sup> level of heading: 1.1, 1.2
- 2<sup>nd</sup> level of Subheading: 1.1.1, 1.1.2
- 3<sup>rd</sup> level of subheading: 1.1.1.1, 1.1.1.2

## 12. Line spacing

- The main body text of the thesis must be set to 1.5 line spacing throughout.
- Single-spacing is permitted only in the following cases:
  - Appendices: including raw data, extended tables, or supplementary material.
  - Headings and subheadings: all heading levels should be single-spaced, with appropriate spacing before and after as defined in the spacing section.
  - Table and figure captions: captions placed above (for tables) or below (for figures) should be single-spaced and centered.
  - References or bibliography: Each reference entry should be single-spaced, with a single blank line between each entry for readability.

## 13. Equations and formulas

- Displayed and numbered equations are used for equations where one often has to refer back. They are numbered according to the chapter.
- Equation numbers should be enclosed in parentheses and placed on the right-hand side of a page.
- The equation numbers should incorporate the chapter number, for instance, (1.1), (2.3), (4.6), et cetera, and the equation numbering restarts at the beginning of each chapter. They should be enclosed by parentheses and placed on the right-hand side of a page.

$$y^2 = \frac{x^3}{z} e^n \quad (1.1)$$

- It is advisable to use Equation Editor or LaTeX.
- If an equation spans multiple lines, the lines should be aligned properly, and only one number should be used for the whole equation.

## 14. Symbols

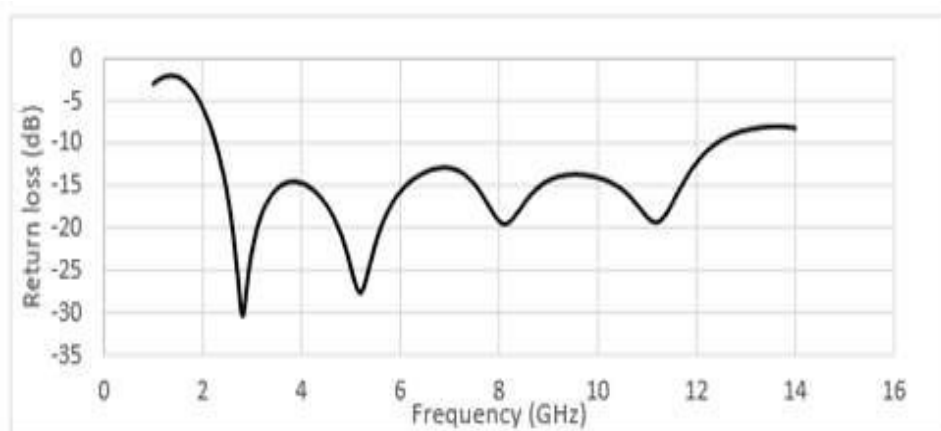
Symbols or nomenclature should be defined. Standard symbols or acronyms normally accepted in the (Engineering/ Informatics) field can be used.

## 15. Abbreviations

A Term or name to be abbreviated, on its first appearance, must be spelled completely and followed immediately by its abbreviation in parentheses in the text. Thereafter, the abbreviation may be used within the text without further explanation. For example, the Malaysian Trade Union Congress (MTUC).

## 16. Figures

- Illustrations such as figures and charts should be in high resolution of 300 dpi.
- Illustrations should be referred to as Figure 1 to Figure N, using Arabic numerals.
- All figures must be original, unless indicated otherwise, and accompanied by permission to reproduce from the copyright holder
- A caption should be placed at the bottom of the figure rather than at the top; it should be self-contained and consist of a brief title and a concise description of the illustration.
- All figures must be numbered in the chapter using Arabic numerals. For example, Figure 4.3 is the third figure that appears in chapter 4.
- A figure should be placed after the paragraph where it is first mentioned. If the figure is large, it can start on the next page after it is mentioned.
- Figures composed of multiple parts, label each segment accordingly with "(a)" and "(b)" for clarity, and should each be described in order within the caption.
- If the figure occupies more than one page, the continued figure on the following page should indicate that it is a continuation.



**Figure 1.1:** Caption 1.

## 17. Tables

- All tables must be numbered using Arabic numerals, aligning with the chapter. For example, Table 2.1 is the first table that appears in Chapter 2.
- All tables in the text as well as in the appendices should be referenced in the text.
- Captions should be positioned at the top of the table (see Figure 3.1). Single-line captions should be centered, while multiple-line captions should be left-indented.

- Tables should be placed after the paragraph where they are first mentioned. If a table is very large and continues onto the next page, it can start on the next page after it is first mentioned.
- A table may be placed in landscape orientation with its number and caption in a single space and placed above the table.
- If the table occupies more than one page, the continued table on the following page should indicate that it is a continuation, for example: 'Table 3.7: continued'. The header row should also be repeated.
- Use font size 10-point and single spacing for data in tables.
- Table sources and notes should be placed directly below the table with single spacing and a font size of 10.

**Table 1.1:** Table Caption

xxxxxxx	Yyyyyyy	<i>Zzzzzzzzz</i>

Sources:

## 18. Appendices

- This section contains lengthy material considered unsuitable to be placed in the main text; for example, raw data, extra drawings, specification documents, and computer programs.
- The attachments should be numbered as 'Appendix A, Appendix B, and so forth. All attachments should be referred to in the text.
- Attachments with different paper sizes should be properly folded.
- Page numbers of appendices must be related to each appendix. For example: A1, A2, etc.

## 19. References

To ensure academic rigor and consistency, all sources cited in the thesis must adhere to the following referencing standards:

- Harvard style (Harvard Multidisciplinary Style) should be used; refer to the samples of the references section at the end of the thesis.
- Proper referencing demonstrates the breadth of literature reviewed and reinforces the academic integrity of the research. Failure to include full and accurate references may be considered plagiarism, a serious form of academic misconduct.
- Primary sources such as peer-reviewed journal articles published in reputable, indexed databases (e.g., Scopus, Web of Science, IEEE Xplore) are the most credible and preferred references.
- Unpublished materials, such as personal communications or observations, should only be cited when the information is essential and unavailable from accessible published sources.

- All borrowed ideas, data, text, or visuals—including figures, tables, and diagrams—must be properly acknowledged, even when permissions are granted or material is considered public domain.
- While review articles are useful for providing a general overview and guiding researchers to relevant literature, students are encouraged to cite original research papers whenever possible to ensure accuracy and credibility.
- Articles that have been accepted for publication but are not yet published should be cited as “In press” following the title of the work.
- Use a reference management tool (e.g., Mendeley, EndNote, Zotero) to manage and format citations and bibliographies efficiently and correctly.
- Each reference in the reference list must include all essential bibliographic details such as authors, title, publication source, volume, issue, page numbers, year, and, where available, a Digital Object Identifier (DOI). Including the DOI ensures easy access and enhances the credibility and traceability of the cited source.
- When a source has six or fewer authors, list all authors. For sources with more than six authors, list only the first author followed by *et al.* in the reference list, in Harvard style.

## 20. In-text Citations

- Use Harvard style for in-text citation.
- The author's name and year are placed in parentheses at the end of the sentence or paragraph. For example: ...has the greatest effect (Hama, 2020).
- The author's name is included in the sentence itself, and the year is placed in parentheses immediately after the name. Example: "Hama (2020) argues that..."
- When using an in-text citation that has two authors, Hama and Ali (2011), and at the end of the paragraph (Hama and Ali, 2020)
- To refer to more than one work, separate the references either with a semicolon or the word *and*. For example (Hama 2020; Ali 2011) or Hama (2020) and Ali (2011).
- Up to three authors are included in Harvard in-text citations. If there are four or more authors, the citation is shortened with *et al.*, for example: (Hama *et al.*, 2020) or Hama *et al.* (2020)
- *et al.* should be written in italics in the in-text citation.
- Place lower-case letters (a, b, c ...etc.) after the year when the same author published in the same year. For example: (Hama *et al.* 2020a; Hama *et al.* 2020b)

## 21. Academic Integrity and AI tools

- Academic integrity is a fundamental principle in thesis writing, and all forms of plagiarism are strictly prohibited. Students must ensure that all submitted work is their own and appropriately cite all sources of ideas, data, and text.
- Misuse of AI tools to produce unoriginal work constitutes a violation of academic standards and may result in disciplinary consequences.

## 22. The Hard Cover and Binding

- The final submitted thesis or dissertation must be hardbound with a durable cover suitable for long-term storage and archiving.



- The layout of the front cover must exactly replicate the title page, with all text printed in gold foil lettering.
- The spine of the thesis should include the degree title at the top (e.g., MSc, PhD), the candidate's full name at the center, and the year of submission at the bottom. All text must be oriented horizontally and printed in gold foil.
- The color of the hardcover of the MSc thesis is maroon.
- The color of the hardcover of the PhD dissertation is black.
- Color font of the cover should be #D4AF37

The following pages provide a sample thesis, showcasing the complete structure and content, including detailed examples of each chapter and section.

**Kurdistan Region-Iraq**  
**Kurdistan Regional Government**  
**Ministry of Higher Education and Scientific**  
**Research**  
**Sulaimani Polytechnic University**  
**Technical College of Engineering (or) Informatics**



## **Thesis Title**

**A Thesis**  
**Submitted to the Council of College of Health & Medical**  
**Technology/ Halabja Technical College - Sulaimani Polytechnic**  
**University in Partial Fulfillment of the Requirements for the Degree**  
**of Master of Science in (field of study program)**  
**By**

**Student Full Name**  
**BSc- Department –University (year)**

**Supervised by**  
**Supervisor's academic title and full name**

**Month, Year in English**

**Month, Year in Kurdish**

**Kurdistan Region-Iraq**

**Kurdistan Regional Government**

**Ministry of Higher Education and Scientific Research**

**Sulaimani Polytechnic University**

**Technical College of Engineering (or) Informatics**



## **Dissertation Title**

**A dissertation**

**Submitted to the Council of the College of Health & Medical  
Technology/ Halabja Technical College - Sulaimani Polytechnic  
University in Partial Fulfillment of the Requirements for the Degree of  
Doctor of Philosophy in (field of study program)**

**By**

**Student Full Name**

**MSc- Department –University (year)**

**Supervised by**

**Supervisor's academic title and full name**

**Month, Year in English**

**Month, Year in Kurdish**

2.5 cm ( 1 inch)

Kurdistan Region-Iraq  
Kurdistan Regional Government  
Ministry of High Education and Scientific Research  
Sulaimani Polytechnic University  
College of Health & Medical Technology/  
Halabja Technical College



## Thesis or Dissertation Title

(Times New Roman, 18, Bold, Centered)

A Thesis or Dissertation

Submitted to the Council of the College of Health & Medical Technology  
and Halabja Technical College- Sulaimani Polytechnic University in  
Partial Fulfillment of the Requirements for the Degree of Master of  
Science or Doctor of Philosophy in (field of study)

(Times New Roman, 14, Centered)

By

(Times New Roman, 14, Centered)

3.25 cm  
(1.3 inch)

## Student Full Name

(Times New Roman, 16, Bold, Centered)

BSc- Department –University (year) (for MSc Thesis)

MSc- Department –University (year) (for PhD. Dissertation)

(Times New Roman, 14, Centered)

Supervised by

(Times New Roman, 14, Centered)

**Academic title: Dr. Supervisor Full Name**

(Times New Roman, 14, Bold, Centered)

**Month, Year in English**

**Month, Year in Kurdish**

(Times New Roman, 14, Bold)

2.5 cm ( 1 inch)

## ABSTRACT

*4 Lines spacing*

The abstract should be written in a structural multiparagraph form, and the length should be no more than 500 words. The abstract should be structured as follows:

**Introduction and background:** Begin with a clear statement of the research purpose, identifying the central problem or research question that the thesis addresses. This should be followed by a brief explanation of the research significance and context. **Material and Methods:** Summarize the methodology used, including the research design, data collection methods, and analysis techniques, highlighting any specific tools or models applied.

**Results:** Afterward, present the main findings or results of the study, emphasizing any patterns, relationships, or outcomes that emerged.

**Conclusions:** Conclude the abstract by outlining the key conclusions drawn from the research and discussing the broader implications or contributions to the field. The abstract should be free of citations or unexplained abbreviations, and should provide a self-contained overview that enables the reader to understand the essence of the thesis without referring to the full document.

## SUPERVISOR CERTIFICATION



*4 Lines spacing*

I (We) certify that this thesis entitled “**Full Thesis/ Dissertation Title**” was prepared by **Student Name**, under my (our) supervision at Sulaimani Polytechnic University (**College of Health & Medical Technology and Halabja Technical College**), in partial fulfillment of the requirements for the degree of (Master of Science or Doctor of Philosophy) in (field of the study program).

Signature: \_\_\_\_\_

Name of Supervisor I

Date: DAY MONTH YEAR

Signature: \_\_\_\_\_

Name of Supervisor II

Date: DAY MONTH YEAR

In view of the available recommendation, I forward this thesis for debate by the examining committee.

Signature: \_\_\_\_\_

Name of head department

Date: DAY MONTH YEAR

I certify that this thesis was prepared by **Student Name** in the department **Department Name**.

Signature: \_\_\_\_\_

Name of Head of the Post Graduation Studies and Scientific Affairs

Head of the Post Graduation Studies and Scientific Affairs

Date: DAY MONTH YEAR

# LINGUISTIC EVALUATION CERTIFICATION



*4 Lines spacing*

I hereby certify that this thesis entitled "**Thesis/ Dissertation Full Title**" prepared by **Student Full Name**, has been read and checked, and after marking and correcting all the grammatical and spelling mistakes, the thesis was handed again to the researcher to make the corrections in this last copy. Therefore, I certify that this thesis is free from mistakes.

Signature: -----

Name :

Position :

Date: DAY MONTH YEAR

## EXAMINING COMMITTEE CERTIFICATION



*4 Lines spacing*

We certify, as an examining committee, that we have read this thesis entitled “**Thesis/ Dissertation Title**”, examined the **Student Full Name** in its contents and found it meets the standard of a thesis for the degree of (**Master of Science / Doctor of Philosophy (PhD)**) in (**field of the study program**).

Signature : -----

Name : NAME

UNIVERSITY NAME

**Member**

Date: :

Signature : -----

Name : NAME

UNIVERSITY NAME

**Member**

Date: :

Signature : -----

Name : NAME

UNIVERSITY NAME

**Chairman**

Date: :

Signature : -----

Name : NAME

UNIVERSITY NAME

**Supervisor**

Date: :

**Note:** The number of committee members depends on the degree (MSc or PhD) and should be added to this page.

Approved by the Dean of the College of Health & Medical Technology  
and Halabja Technical College

Signature : -----

Name : NAME

**Dean of the College**

Date: :



# DECLARATION



*4 Lines spacing*

Name of Candidate: **FULL NAME**

Name of Degree: **Doctor of Philosophy (PhD) (or Master (MSc))**

Title of the Thesis/ Dissertation:

Field of study:

I do solemnly and sincerely declare that:

- I am the sole author/writer of this work;
- This work is original;
- Any use of any work in which copyright exists was done by way of fair dealing and for permitted purposes and any excerpt or extract from, or reference to, or reproduction of any copyright work has been disclosed expressly and sufficiently, and the title of the work and its authorship have been acknowledged in this work;
- I do not have any actual knowledge, nor do I have ought reasonable grounds to know that the making of this work constitutes an infringement of any copyright work;
- I am fully aware that if, in the course of making this work, I have infringed any copyright, whether intentionally or otherwise, I may be subject to legal action or any other action as may be determined by the university.

Candidate's Signature : \_\_\_\_\_

Candidate's name :

Date :

## DEDICATION



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This is a sample on how to write a dedication: I dedicate this thesis to my beloved parents, whose endless love, prayers, and sacrifices have shaped who I am today. Their unwavering belief in me has been my constant motivation. I also extend my heartfelt gratitude to my professors and mentors for their guidance and support throughout this academic journey. To my friends and colleagues, thank you for your encouragement and companionship. Lastly, this work is dedicated to all those who strive for knowledge and never give up in the face of challenges. May this thesis serve as a small step forward in the pursuit of greater understanding.

## ACKNOWLEDGEMENT



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I would like to express my deepest appreciation to my supervisor, “**Dr. Prof. Name**”, for their expert guidance, insightful feedback, and continuous support throughout the course of this research. I am also grateful to the academic and technical staff of “**Department/Institution Name**” for their assistance and for providing the necessary resources and infrastructure. This work has benefited greatly from discussions with colleagues and peers whose constructive suggestions enhanced the quality of this thesis. I am also thankful to “**Funding Body/Project Name, if applicable**” for their financial support. This research would not have been possible without the contribution of all these individuals.

## LIST OF PUBLICATIONS



*4 Lines spacing*

**Journal title:**

**Type of indexing:** (*Web of science, Scopus, Local*) journal.

Muhammed, R.K., Rashid, Z.N. and Saydah, S.J., 2025. A Hybrid Approach to Cloud Data Security Using ChaCha20 and ECDH for Secure Encryption and Key Exchange. *Kurdistan Journal of Applied Research*, 10(1), pp.66-82. [doi:10.24017/science.2025.1.5](https://doi.org/10.24017/science.2025.1.5).

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## LIST OF FIGURES



*4 Lines spacing*

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## LIST OF TABLES

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**TABLE NO.**

**CAPTION**

**PAGE**

Table 1.1

A list of tables should be generated automatically using Word, so maintain any updates will happen

3

## LIST OF ABBREVIATIONS



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ABBREVIATION	DESCRIPTION
ANN	Artificial Neural Network
GA	Genetic Algorithm

**Note:** The abbreviations must be arranged in alphabetical order.



## LIST OF SYMBOLS



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Symbol	Description
$\Omega$	Omega
$\Gamma$	Gamma
$\Delta$	Delta
$\Theta$	Theta

**Note:** The symbols must be arranged in alphabetical order.

# CHAPTER ONE INTRODUCTION

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## 1.1 Introduction

The introduction should be written in a coherent and engaging style, guiding the reader through the context of the research like a well-structured narrative. It sets the stage for the entire thesis by clearly presenting the topic, motivation, and direction of the study.

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## 1.2 Problem statement

This is a clear and concise description of the issue or challenge the research aims to address. It highlights the gap in knowledge or practical concern that the study will tackle, helping to align the reader's understanding with the core focus of the investigation.

## 1.3 Scope of the Research (*Optional*)

This section defines the boundaries of the study. It specifies what is included and excluded in the research, outlining the parameters and limitations that frame the investigation.

## 1.4 Research Aim and Objectives

The **aim** articulates the overall purpose and direction of the study, providing a broad research goal. The **objectives** break down this aim into specific, actionable steps that guide the research process and define what the researcher intends to achieve.

## **1.5 Significance of the Research (MSc) / Contribution of the Study (PhD)**


This section explains the importance of the research. For MSc theses, it highlights the practical or academic relevance of the study. For PhD dissertations, it emphasizes the original contribution the research makes to the existing body of knowledge in the field.

## **1.6 Thesis Outline**

This part outlines the organization of the thesis, briefly describing the content of each chapter. It serves as a roadmap for the reader, providing a clear overview of how the research is structured and developed throughout the document.

## **CHAPTER TWO**

### **THEORETICAL BACKGROUND AND LITERATURE REVIEW**

  
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This chapter provides a comprehensive foundation for the research by reviewing existing studies, theories, and methodologies relevant to the topic under investigation.

It should cover only about 20% of the total thesis. The chapter includes the following key components:

- A detailed overview of the methods, techniques, models, or algorithms (if applicable) that form the foundation of the proposed research.
- A critical and comprehensive review of previous studies conducted in the area of interest, analyzing major findings, trends, and scholarly contributions.
- An in-depth examination of relevant published work, including theoretical perspectives, experimental approaches, and key proposals made by other researchers.
- A synthesis of existing theories and models related to the research topic, providing a context for how the current study builds upon or diverges from previous work.
- Identification of research gaps based on the review, clearly justifying the need for the present study and demonstrating how it contributes new knowledge to the field.
- All references must be cited using a consistent referencing style appropriate to the discipline and as prescribed by the academic institution.

**Note: The number of sections and their titles are free to the researcher.**

## **CHAPTER THREE**

### **METHODOLOGY**



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This chapter outlines the overall approach and procedures used to conduct the research. It provides a clear and detailed explanation of how the study is designed, implemented, and analyzed. The content of this chapter typically includes:

- A description of the research design and methodology, specifying whether the study is qualitative, quantitative, or mixed-methods.
- A step-by-step account of the research process, detailing the sequence of activities undertaken to achieve the research objectives.
- An explanation of the tools, materials, equipment, datasets, software, or algorithms employed in the study.

## CHAPTER FOUR

### RESULTS



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This chapter presents and analyzes the outcomes of the research, whether they are derived from experimental work, modeling, or simulation studies. It provides a clear interpretation of the findings in the context of the research objectives and relevant literature.

One chapter result is required for an MSc degree and three chapter results for a PhD. For a Ph.D. thesis, each result chapter should have its introduction, results, and discussion.

The chapter typically includes the following components:

- Modelling and Simulation Experiments Results, or/and results from experiments work.
- A statement of what has been determined, i.e., both evaluated and observed, as a consequence of performing the test. Thus, it will comprise a concise statement of the calculated results together with other important facts which have been derived, measured, tested, and observed.
- Also, the researcher will need to state the results of the research. There may be graphs, tables, figures, etc., all of which you need to describe.
- An assessment of the experimental results and / or Modelling and Simulation results and comparison with theoretical predictions where appropriate.
- Sample calculations may be included and tabled, plotted, and pictured to show the correlation between the theoretical and experimental or measured results.

## **CHAPTER FIVE**

### **DISCUSSION**



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The researcher will need to discuss the previously mentioned results. The researcher should address his/her research questions and explain how his/her research relates to previous research.

The first paragraph of the discussion will provide an interpretation depending on the key findings of your results. Then you can support your explanation with evidence, the importance, and the new findings, also it will be include the answers to the research questions.

The second part: the results should be interpretations to defend your answers, the strength of the study, the limitations of the study, unexpected findings, and an updated review that validates your findings.

# CHAPTER SIX

## CONCLUSIONS AND FUTURE WORK

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This chapter presents a synthesis of the major findings, interpretations, and insights gained through the research. It moves beyond simply restating results, focusing instead on drawing meaningful conclusions and identifying the broader implications of the study. The aim is to convey the significance of the research outcomes and outline possible directions for future investigation.

### 6.1 Conclusions

This section should present clear and concise conclusions based on the research findings. Each conclusion must be directly linked to the research objectives and questions outlined at the beginning of the study. These should be stated as precise, unambiguous points—preferably as a numbered or bulleted list for clarity. The conclusions must reflect a deep understanding of the data and should avoid vague or unsupported claims. Each statement should answer a specific research question or objective and demonstrate how the study contributes to existing knowledge in the field.

### 6.2 Recommendations / Future Work

This section should emerge logically from the study's findings and the researcher's experience during the investigation. Recommendations may include practical applications, theoretical extensions, or areas that require further exploration due to limitations or unanswered questions in the current study. Future work should suggest how the research can be expanded or refined, highlighting unresolved issues or newly identified research gaps. Recommendations should also consider how the study's results could be applied in real-world contexts. Both conclusions and recommendations should be presented in order of importance, starting with the most significant points.



## REFERENCES

The reference list must include all references cited in the text of your thesis.

The reference list should be in alphabetical order according to the surname of the author.

### Journal article

#### References with four or more authors

**Author1, Initial(s)., Author2, Initial(s)., Author3, Initial(s)., Author4, Initial(s). & Author5, Initial(s).** (Year) 'Title of article', *Title of Journal*, Volume, Issue , pp. page range. DOI (if available)

Johnson, A., Smith, B., Lee, C., O'Connor, D. & Wang, X. (2021) 'Iron bioavailability in diverse soil types', *Soil Biology and Biochemistry*, 160(4), pp. 45–58. <https://doi.org/10.1016/j.soilbio.2021.108360>

### Book

**Author1, Initial(s)., Author2, Initial(s)., Author3, Initial(s)., Author4, Initial(s). & Author5, Initial(s).** (Year) *Title of Book*. Edition (if not the first). Place of publication: Publisher.

Wilson, A., Zhang, Y., Patel, M., Chen, L. & Gomez, R. (2021). *Soil-Plant Interactions in Agroecosystems*. 2nd ed. London: Academic Press.

### Electronic Book

**[Author(s) Last name, Initial(s).** (Year) *Title of the book*. **Edition** (if not the first). [online] Place of publication: **Publisher**. Available at: **URL or DOI** (Accessed: Day Month Year).

Adams, R.J. (2019) *Plant Nutrition and Soil Health*. [online] London: Green Earth Publishing. Available at: <https://www.greenearthbooks.org/plantnutrition> (Accessed: 4 July 2025).

### Book chapter

**Chapter author(s) Last name, Initial(s).** (Year) 'Title of chapter', in **Editor(s) Last name, Initial(s).** (ed./eds.) *Title of book*. **Edition** (if not the first). Place of publication: **Publisher**, pp. page range.

#### Example (1 author, 1 editor):

Wilson, A.M. (2020) 'Iron uptake in cereal crops', in Green, R.D. (ed.) *Soil-Plant Nutrient Interactions*. 2nd ed. London: Academic Press, pp. 112–135.

#### Example (multiple authors and editors):

Singh, P., Zhao, L. and Costa, M. (2021) 'Micronutrients in plant physiology', in Kumar, V., Lopez, J. and Hart, S. (eds.) *Plant Nutrition Handbook*. New York: Springer, pp. 78–99.

### **Handbooks**

#### **Format (authored handbook):**

**Author(s)** Last name, Initial(s). (Year) *Title of handbook*. Edition (if not the first).

Place of publication: Publisher.

#### **Format (edited handbook):**

**Editor(s)** Last name, Initial(s). (ed./eds.) (Year) *Title of handbook*. Edition (if not the first). Place of publication: Publisher.

#### **Example (authored):**

Miller, R.L. (2020) *Handbook of Soil Science*. 3rd ed. Boca Raton: CRC Press.

#### **Example (edited):**

Jones, D.A. and Smith, P.H. (eds.) (2018) *Handbook of Plant Nutrition*. 2nd ed. New York: Springer.

### **Conference papers**

[**Author(s)** Last name, Initial(s). (Year) 'Title of paper', *Title of conference*, Location, Date(s). Place of publication: **Publisher**, pp. page range.

If online: Available at: **URL** (Accessed: Day Month Year).

#### **Example (printed):**

Ali, H. and Zhang, Y. (2022) 'Iron transport mechanisms in plants under stress', *Proceedings of the 12th International Conference on Plant Nutrition*, Tokyo, Japan, 12–15 September 2022. Tokyo: University of Tokyo Press, pp. 115–121.

#### **Example (online):**

Nguyen, T.P. et al. (2021) 'Soil pH effect on iron bioavailability in crops', *4th International Soil Science Congress*, Ankara, Turkey, 5–8 October 2021. Available at: <https://soilscience2021.org/papers/nguyen> (Accessed: 4 July 2025).

### **Theses/Dissertations**

[**Author(s)** Last name, Initial(s). (Year) *Title of thesis or dissertation*. Type of thesis, Institution, Location.

#### **Example (PhD thesis):**

Johnson, M.R. (2019). *Iron uptake and transport in wheat*. PhD thesis, University of Cambridge, Cambridge.

#### **Example (Master's thesis):**

Ali, S.T. (2021). *Soil nutrient dynamics in arid regions*. Master's thesis, University of Baghdad, Baghdad.

If the thesis is **available online**, you can add:

Available at: **URL** (Accessed: Day Month Year).

## **APPENDIX A**

This section should be placed at the end and should contain supplementary information like raw data and any other information that supports the study.

## الخلاصة



اقلیم کردستان- العراق  
حكومة اقليم كردستان  
وزارة التعليم العالي والبحث العلمي  
جامعة السليمانية التقنية  
كلية الصحة و التقنيات الطبية/ كلية حلبجة التقنية

## اسم الاطروحة

### الرسالة

مقدمة الى مجلس كلية الصحة و التقنيات الطبية/ كلية حلبجة التقنية في جامعة السليمانية  
التقنية كجزء من متطلبات نيل شهادة (الماجستير /دكتوراه فلسفة) في علوم (اختصاص

### برنامج الدراسة

من قبل

(اسم

الطالب)

بكلوريوس ..... جامعة ..... (سنة) (لطالب الماجستير)  
ماجستير..... جامعة ..... (سنة) (لطالب الدكتوراه)

### اشراف

(اللقب العلمي)

(اسم المشرف)

الشهر والسنة الهجريه

(تاريخ المناقشه)

الشهر والسنة الميلاديه

(تاريخ المناقشه)

پوخته



هەریمی کوردستان- عێراق  
حکومەتی هەریمی کوردستان  
وەزارەتی خوێندنی باڵاو توێژینەوهی زانستی  
زانکۆی پۆلیتەکنیکی سلێمانی  
کۆلێجی تەکنیکی تەندروستی و پزیشکی- کۆلێجی تەکنیکی هەلەبجە

## ناونیشانێ توێژینەوه

نامەپێکە

ئێشکەش کراوه بە ئەنجوومەنی کۆلێجی تەکنیکی تەندروستی و پزیشکی- کۆلێجی تەکنیکی  
هەلەبجە لە زانکۆی پۆلیتەکنیکی سلێمانی وەک بەشێک لە پێداویستیهکان بەدەستھێنانی بروانامە  
ماستەر/دکتۆرای فەلسەفە لە (پسپۆری پرۆگرامی خوێندن)

لە لایەن

(ناوی خوێندکار)

بەکالۆریۆس ..... – زانکۆی ..... (سأل) (بۆ خوێندکاری ماستەر)

ماستەر ..... – زانکۆی ..... (سأل) (بۆ خوێندکاری دکتۆرا)

بەسەرپەرشتی

(نازناوی زانستی) (ناوی سەرپەرشتیار)

مانگ و سالی کوردی

(بەر واری گەفتوگو)

مانگ و سالی زابینی

(بەر واری گەفتوگو)







**End of the guideline.**