



**UNIVERSITI  
MALAYA**

**FACULTY OF BUILT ENVIRONMENT  
UNIVERSITI MALAYA**

**GUIDELINES FOR THE PREPARATION OF  
RESEARCH PROJECT REPORT  
FOR UNDERGRADUATE**

The content herein was last reviewed and updated on  
**18 JULY 2025**

## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>3</b>
<b>2.0</b>	<b>FORMAT.....</b>	<b>3</b>
2.1	<i>Hard Binding .....</i>	3
2.2	<i>Word Limit .....</i>	6
2.2	<i>Quality of Paper and Duplication.....</i>	6
2.4	<i>Typing .....</i>	6
2.5	<i>Margins .....</i>	6
2.6	<i>Pagination.....</i>	7
2.7	<i>Footnotes.....</i>	7
2.8	<i>Tables.....</i>	8
2.9	<i>Figures .....</i>	8
<b>3.0</b>	<b>LAYOUT AND ARRANGEMENT OF CONTENTS .....</b>	<b>9</b>
3.1	<i>The Preliminaries.....</i>	9
3.1.1	Title Page .....	9
3.1.2	Original Literary Work Declaration Form .....	9
3.1.3	Abstract.....	12
3.1.4	Acknowledgements.....	12
3.1.5	Table of Contents .....	12
3.1.6	List of Figures .....	12
3.1.7	List of Tables.....	12
3.1.8	List of Abbreviations.....	13
3.2	<i>Main Text .....</i>	13
3.2.1	Structure for Main Text .....	13
3.2.2	Format for Main Text Layout .....	14
3.2.3	Format for Numbering Headings in Main Text.....	14
3.2.4	Format for Numbering Sub-Headings in Main Text .....	16
3.3	<i>References .....</i>	16
3.4	<i>Supplementary.....</i>	18
3.4.1	Appendices.....	18
3.4.2	List of Publications and Papers Presented.....	19
<b>4.0</b>	<b>WRITING ETHICS.....</b>	<b>19</b>
4.1	<i>Plagiarism.....</i>	19
4.2	<i>Turnitin .....</i>	19
4.3	<i>AI usage .....</i>	19
<b>5.0</b>	<b>SUBMISSION .....</b>	<b>20</b>
5.1	<i>Prior to Submission .....</i>	20
5.2	<i>Required Documents for Submission.....</i>	20
<b>APPENDIX A .....</b>		<b>21</b>
	<i>Example of Table of Contents .....</i>	21

## 1.0 INTRODUCTION

In the process of completing an undergraduate programme at the Faculty of Built Environment and being awarded the degree by Universiti Malaya, students are required to submit a research report, depending on the specific requirements of the specific programme.

These guidelines are specifically intended to assist undergraduate students in preparing their final form of a research report. All submitted reports must reflect the academic standards set by the Faculty. Therefore, the rules and formatting guidelines outlined in this document must be strictly followed.

For clarity, the following terms are commonly used in academic documentation at the University:

1. **Research Report** - Documentation of research prepared and submitted by the student/candidate for the award of an Undergraduate or Master's degree by Coursework;
2. **Dissertation** - Documentation of original research prepared and submitted by the candidate for the award of a Master's degree by Research or Mixed Mode;
3. **Thesis** - Documentation of the original research prepared and submitted by the candidate for the award of a Doctoral degree by Research or Mixed Mode.

This guideline is developed based on the following references:

- University of Malaya. (2017). *Guidelines for the Preparation of Research Report, Dissertations and Theses*. Kuala Lumpur: Universiti Malaya.
- Faculty of Education UM. (2022). *Guidelines for the Preparation of Research Report, Dissertations and Theses*. Kuala Lumpur: Universiti Malaya.
- American Psychological Association. (2020). *Publication Manual of the American Psychological Association (7th ed.)*. Retrieved from <https://apastyle.apa.org/style-grammar-guidelines/references/examples>.

## 2.0 FORMAT

### 2.1 Hard Binding

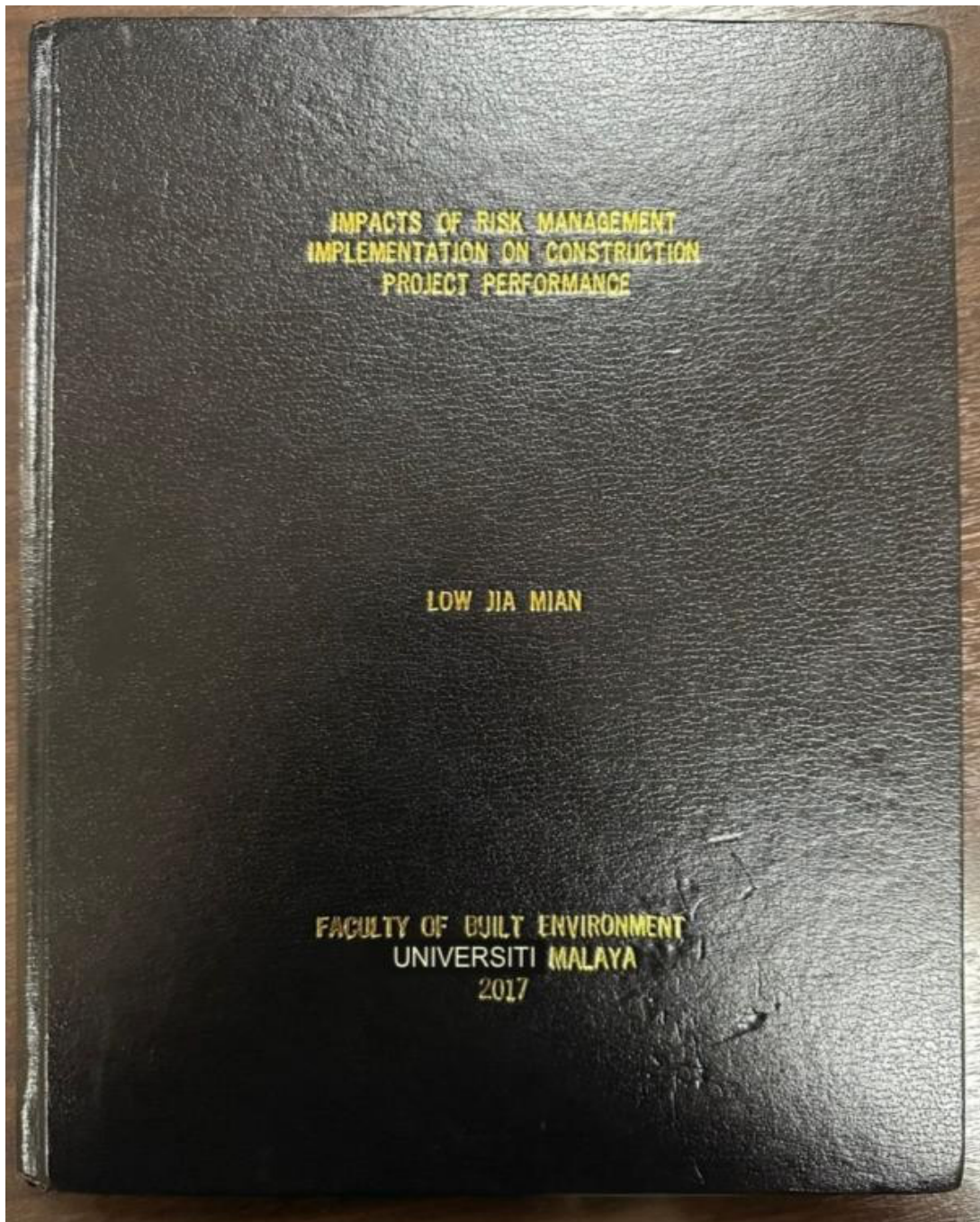
A research report submitted shall be bound in one (1) volume.

For the final submission prior to graduation, the research report must be hardbound in **black** rexine cover (see Figure 1).



Hard Cover Colour of Research Project: Black

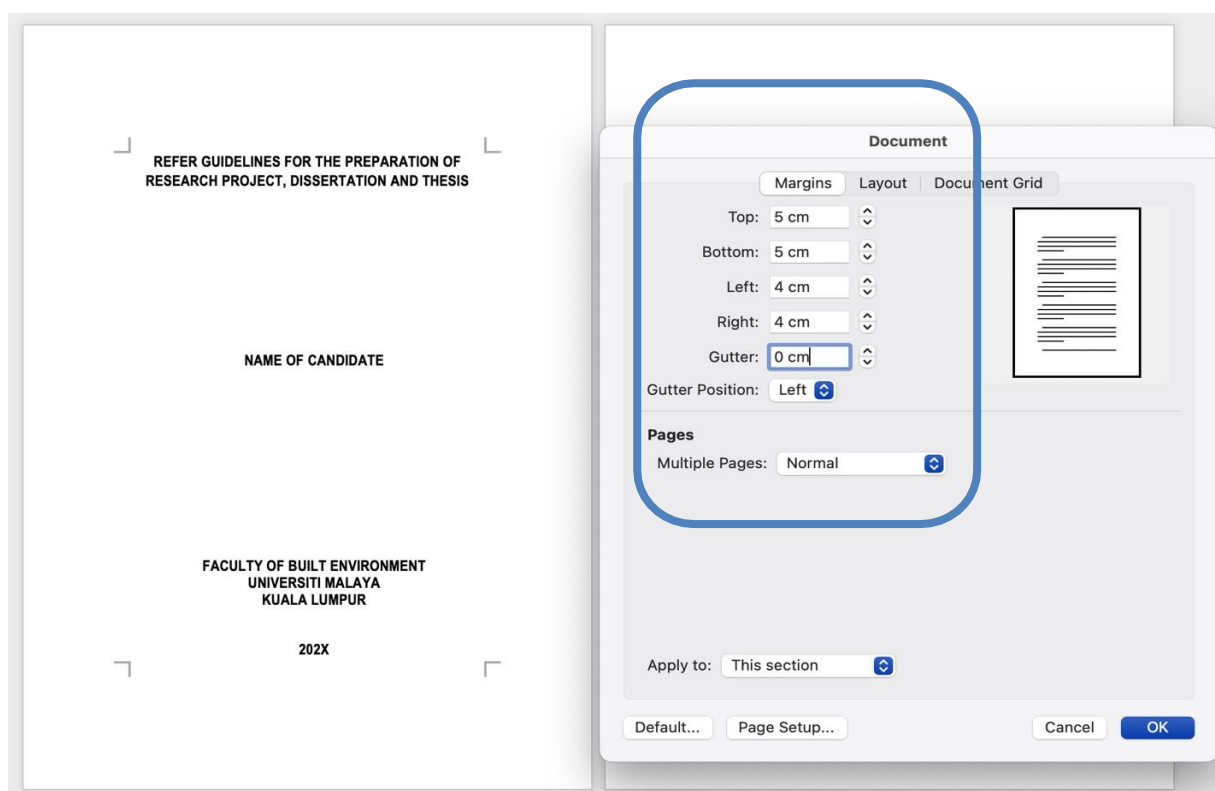
The cover must be **A4 size** (210mm x 297mm).



**Figure 1: Hardbound Research Report Sample for Final Submission**

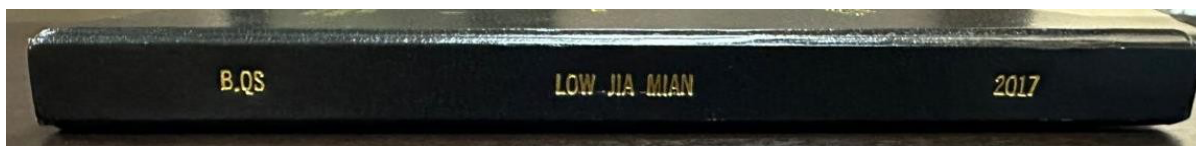
The title of the research report, the name of author, the name of the university and the year of submission must be printed in **gold block letters** on the front cover. The text on the front cover should use **font size 16, font type Arial Narrow, bold and in uppercase letters**.

For page margin settings, please refer to Figure 2.



**Figure 2: Front Cover Formatting**

The spine of the research report should display the **author's full name**, **year of submission** and the **academic degree abbreviation** according to the student's registered undergraduate programme (see Figure 3 and Table 1). The year of submission must reflect the actual year the research report is submitted.



**Figure 3: Example of Spine Format**

**Table 1: The Academic Degree Abbreviation**

Undergraduate Programme	Abbreviation
Bachelor of Science in Architecture	BSc. Arch
Bachelor of Building Surveying	B.BS
Bachelor of Quantity Surveying	B.QS
Bachelor of Urban and Regional Planning	B.URP
Bachelor of Real Estate	B.RE

## 2.2 Word Limit

The research report should generally not exceed a maximum of 30,000 words. The words exclude footnotes, references, appendices, tables, figures and prefaces.

The minimum word count is determined by the Faculty based on programme standards set by the respective department (if applicable).

## 2.2 Quality of Paper and Duplication

The research report should be printed single-sided on high quality white A4 paper (201mm × 297mm; 80 grams).

The research report must be typed and duplicated using offset printing or high-quality photocopying. All copies must be clean and clearly legible.

## 2.4 Typing

The research report must be typed using font type **Times New Roman, font size 12** (except for tables and figures) and justified, using Microsoft Word, or similar word-processing software.

Words in a language other than the main language of the report must be typed in *italics*.

For mathematical content, the use of *Equation Editor* or *LaTeX* is recommended. Script fonts are not allowed.

Double-spacing must be used throughout the main text, including the abstract.

## 2.5 Margins

The stipulated margins for the general text are as follows:

- Top: 2.0 cm
- Right: 2.0 cm
- Left: 4.0 cm
- Bottom: 2.0 cm

Additional guidelines regarding margin are as follows:

- (a) All text must be confined within the specified page margins as defined in the formatting guidelines. If absolutely necessary, this space should only be used for a footnote or to complete the final sentence of a chapter, topic, or figure caption.
- (b) All tables and figures must be positioned within the specified margins.
- (c) Paragraphs must be justified, and the first line of each paragraph should not be intended.

- (d) The last paragraph on a page must contain at least two (2) lines of text. If only one (1) line appears at the bottom of the page, the entire paragraph should be moved to the following page.

## 2.6 Pagination

All page numbers must be placed without punctuation, 1.0 cm from the bottom edge on the right-hand side. The recommended font and size for page numbers are font type **Times New Roman**, font size **10**.

In addition, the page numbering system must conform to the following rules:

- (a) The *Preliminaries* include the Title Page, Original Literary Work Declaration, Abstracts, Acknowledgement, Table of Contents, List of Tables, List of Figures and List of Abbreviations. The *Preliminaries* are numbered in consecutive lower case Roman Numerals (i, ii, iii, iv, etc.)
- (b) The *Title Page* is considered as page i, but the number is not displayed. Roman numeral ii appears on the first page following the Title Page and continues consecutively throughout the *Preliminaries*. The entire *Main Text* (Chapters and References) and *Supplementaries* (Appendices and List of Publications and Papers Presented) are numbered consecutively in Arabic numerals (1, 2, 3, etc.) beginning with 1 on the first page of the main text.

## 2.7 Footnotes

Footnotes must be written in a smaller font than the body text (font size 8).

Students are advised to limit the use of footnotes unless necessary. The APA style generally discourages use of footnotes. However, the APA permits their use in two (2) specific cases: to provide additional content or comments, and to indicate copyright permissions.

Footnotes are typically used to elaborate or give supplementary information relevant to the content on the same page.

Footnotes should be numbered consecutively using Arabic numerals. Superscript numbers placed in the text refer to the corresponding footnotes, which appear at the bottom of the same page. The benefit of using footnotes is that explanatory information and source citations can be presented without interrupting the main text. When using footnotes, the superscript number should be inserted immediately after the punctuation mark.

### Example of a footnote:

The case study is preferred in examining contemporary events, especially when the relevant behaviors cannot be manipulated.<sup>1</sup>

---

<sup>1</sup> Yin, R. K. *Case study research: Design and method*. SAGE, 2009.

2.8 Tables

Tables should be placed within the body of the text, centred on the page, labelled according to the chapter in which they appear. For example, tables in Chapter 1 are numbered sequentially as Table 1.1, Table 1.2 and so on.

The caption should be placed **above** the table itself (Table 2). If the table contains a citation, the source should be stated in the table caption, such as:

Table 2: Caption (Source: ILAM, 2019; CIDB, 2019)

	(Table)	

If a table extends beyond one page, the continuation of the following page must be clearly indicated (e.g., *Table 1.1, continued*), and the header row should be repeated on the subsequent page.

2.9 Figures

Figures, should be placed within the body of the text, centred on the page, and labelled according to the chapter in which they appear. For example, figures in Chapter 3 are numbered sequentially: Figure 3.1, Figure 3.2 and so on.

Figures typically include graphs, illustrations, or photographs. The captions for a figure are placed below the figure, as shown in Figure 2.4.

If a figure spans more than one page, the continuation on the next page must be clearly indicated (e.g., *Figure 2.4, continued*).

If the figure includes a citation, the source should be placed after the caption.

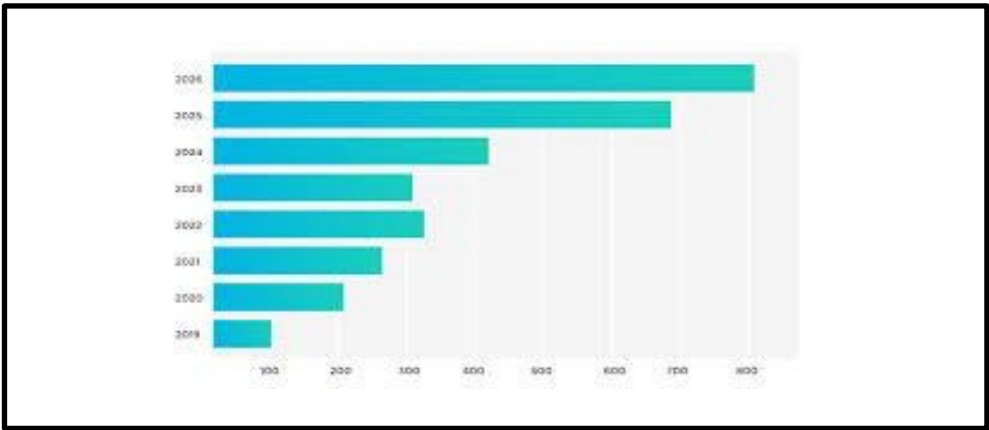


Figure 4: Caption (Source: Potter, 2013)



### **3.0 LAYOUT AND ARRANGEMENT OF CONTENTS**

The structure of the research report follows a standard format consisting of three (3) main sections: Preliminaries, *Main Text* and *Supplementary*.

#### **3.1 The Preliminaries**

This section consists of the following items in order:

##### **3.1.1 Title Page**

The title page is the first page after the front cover and should include the following:

- The final research title as approved by the Faculty;
- The student's name as recorded in the registration records;
- A statement indicating the mode of programme; and
- The year of submission.

This page is considered the first page of *Preliminaries* section and is assigned the Roman numeral *i*, but the page number should not be displayed.

The text must be typed using font type **Times New Roman**, font size **14**, with **1.15 pt. line spacing**. Refer Figure 5.

##### **3.1.2 Original Literary Work Declaration Form**

This form must be completed by the student and signed by a witness (the Supervisor). The original signed form must be included in all copies of the research report. The form can be downloaded from MAYA. If the research report is written in English, the English version of the form must be used. The page number should not be displayed. Refer the sample in Figure 6.

**REFER GUIDELINES FOR THE PREPARATION OF  
RESEARCH PROJECT, DISSERTATION AND THESIS**

**NAME OF CANDIDATE**

**RESEARCH PROJECT SUBMITTED TO THE  
FACULTY OF BUILT ENVIRONMENT  
UNIVERSITI MALAYA, IN PARTIAL FULFILMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF (NAME  
OF PROGRAMME)**

**FACULTY OF BUILT ENVIRONMENT  
UNIVERSITI MALAYA  
KUALA LUMPUR**

**202X**

**Figure 5: Title Page Sample**

**UNIVERSITI MALAYA**

**ORIGINAL LITERARY WORK DECLARATION**

Name of Candidate: Name of Candidate (I.C./Passport No: )

Matric No:

Name of Degree:

Title of Project Paper/Research Report/Dissertation/Thesis ("this Work"): Refer Guidelines For The Preparation Of Research Project, Dissertation And Thesis

Field of Study:

I do solemnly and sincerely declare that:

- (1) I am the sole author/writer of this Work;
- (2) This Work is original;
- (3) 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;
- (4) I do not have any actual knowledge nor do I ought reasonably to know that the making of this work constitutes an infringement of any copyright work;
- (5) I hereby assign all and every rights in the copyright to this Work to the Universiti Malaya ("UM"), who henceforth shall be owner of the copyright in this Work and that any reproduction or use in any form or by any means whatsoever is prohibited without the written consent of UM having been first had and obtained;
- (6) 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 UM.

Candidate's Signature Date:

Subscribed and solemnly declared before,

Witness's Signature Date:

Name:

Designation:

ii

**Figure 6: Original Literary Work Declaration Form Sample**

### **3.1.3 Abstract**

An abstract is a summary of the research project. It should concisely describe the objectives (problem statement), significance of the research, methodology, key findings, and conclusion.

The abstract must be written in both *Bahasa Melayu* and English, presented on separate pages.

Each abstract must:

- The first line should contain the research title in bold, uppercase letters, font size 12.
- The second line should contain the word “ABSTRAK” (for Malay version) or “ABSTRACT” (for English version), in bold, uppercase letters, font size 12.
- Be written in a single paragraph, not exceeding 500 words.
- Use double-spacing.
- Include a maximum of five (5) keywords listed below the abstract.

The *Bahasa Melayu* abstract is placed first, followed by the English abstract. The Abstract page is assigned Roman numeral "iii", and the following pages should be numbered consecutively.

### **3.1.4 Acknowledgements**

Most research reports include an acknowledgement section to express appreciation to individuals or organisations who have contributed directly or indirectly to the completion of the study. This section should be concise and must not exceed one (1) page. It should be numbered in Roman numeral in sequence with the preliminary pages.

### **3.1.5 Table of Contents**

The table of contents should list all chapters, headings, and sub-headings along with their corresponding page numbers. Headings must be labelled according to the respective chapter. The formatting and layout of the table of contents should follow the example provided in Appendix A.

### **3.1.6 List of Figures**

This list must use the same numbering and captions as those that appear below the figures in the main text and appendices. Figures should be numbered according to the chapter in which they appear. For example, figures in Chapter 1 should be numbered sequentially as Figure 1.1, Figure 1.2 and so on.

### **3.1.7 List of Tables**

This list must use exactly the same numbering and captions as those that appear above the tables in the main text and the appendices. Tables should be numbered according to the chapter in which they appear. For example, tables in Chapter 1 are numbered sequentially as Table 1.1, Table 1.2 and so on.

### **3.1.8 List of Abbreviations**

If necessary for the presentation of the research report, this List of Abbreviations should be included after the List of Tables and List of Figures.

## **3.2 Main Text**

### **3.2.1 Structure for Main Text**

The text of the research report is organised into chapters. There is no fixed number of chapters; however, the structure must be agreed upon by both the supervisor and the student. The views of the examiners and examination board may also be taken into consideration. Generally, the standard structure of a research report consists of the following chapters:

#### **Chapter 1: Introduction**

This chapter introduces the research problem and its background. It should clearly state the research questions, research aim, and objectives – ensuring all elements are logically aligned. It should also include the significance of the study; scope and limitations, and definitions of terms.

Note: The conceptual and theoretical frameworks may be included in Chapter 1 (Introduction) or Chapter 2 (Literature Review), depending on the study's structure and nature.

#### **Chapter 2: Literature Review**

This chapter presents a critical review of relevant literature by accredited scholars and researchers. While older references may be included for foundational purposes, the review should focus primarily on recent and current studies – preferably those published with the last five (5) years except for historical/archival references.

#### **Chapter 3: Methodology**

This chapter details the research design and methodology. It should explain the sampling procedure, instrumentation used, data collection techniques, and methods of data analysis. All methodological choices must be justified clearly and appropriately.

#### **Chapter 4: Findings**

This chapter presents the results of the study using written text, supported by relevant tables and figures. The findings must be directly addressing the research questions and should be interpreted with scholarly rigour.

#### **Chapter 5: Discussion and Conclusion**

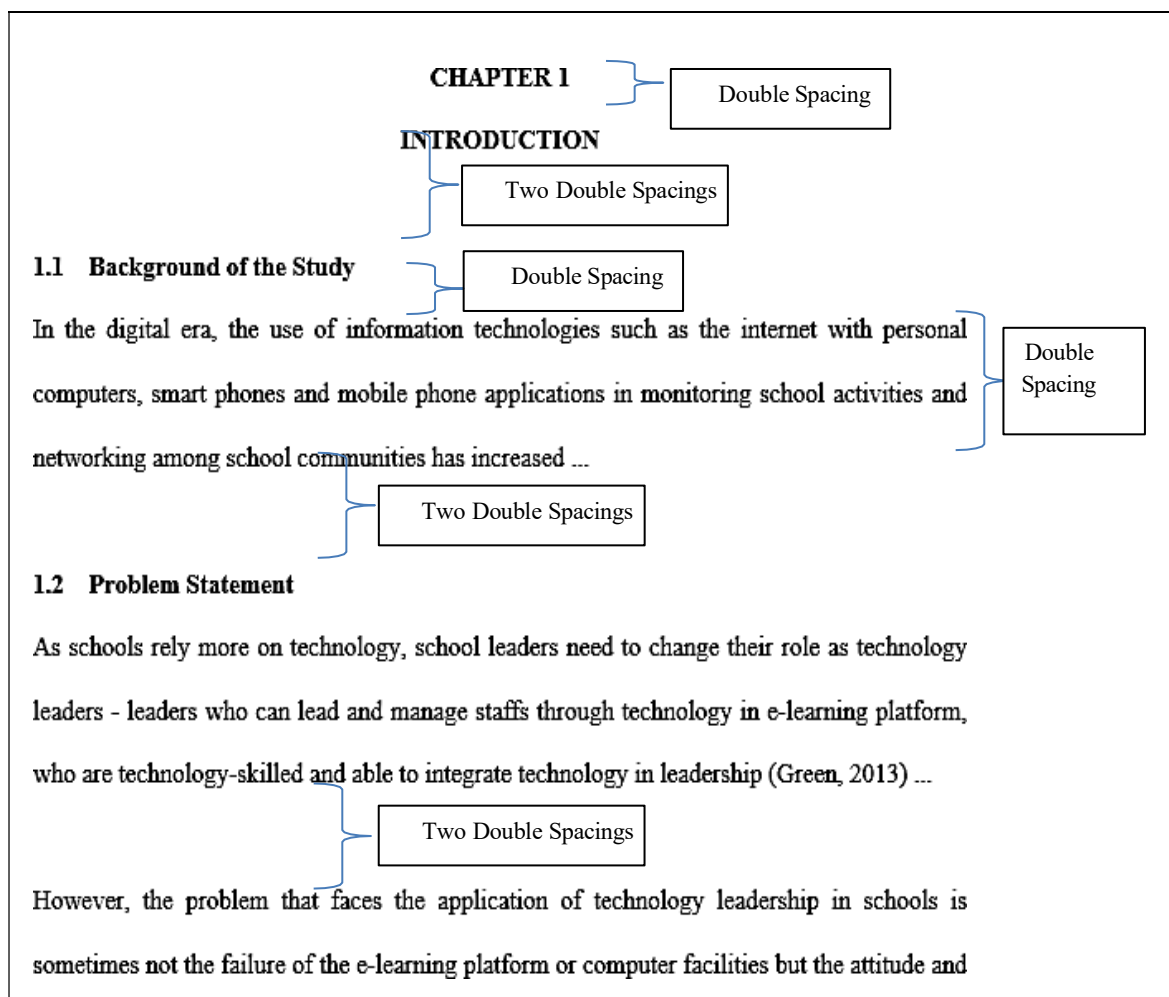
This chapter summarises and discusses the main findings of the research. It should address the implications of the findings, provide recommendations and suggestions for future research, and conclude the study in a concise and meaningful way.

### 3.2.2 *Format for Main Text Layout*

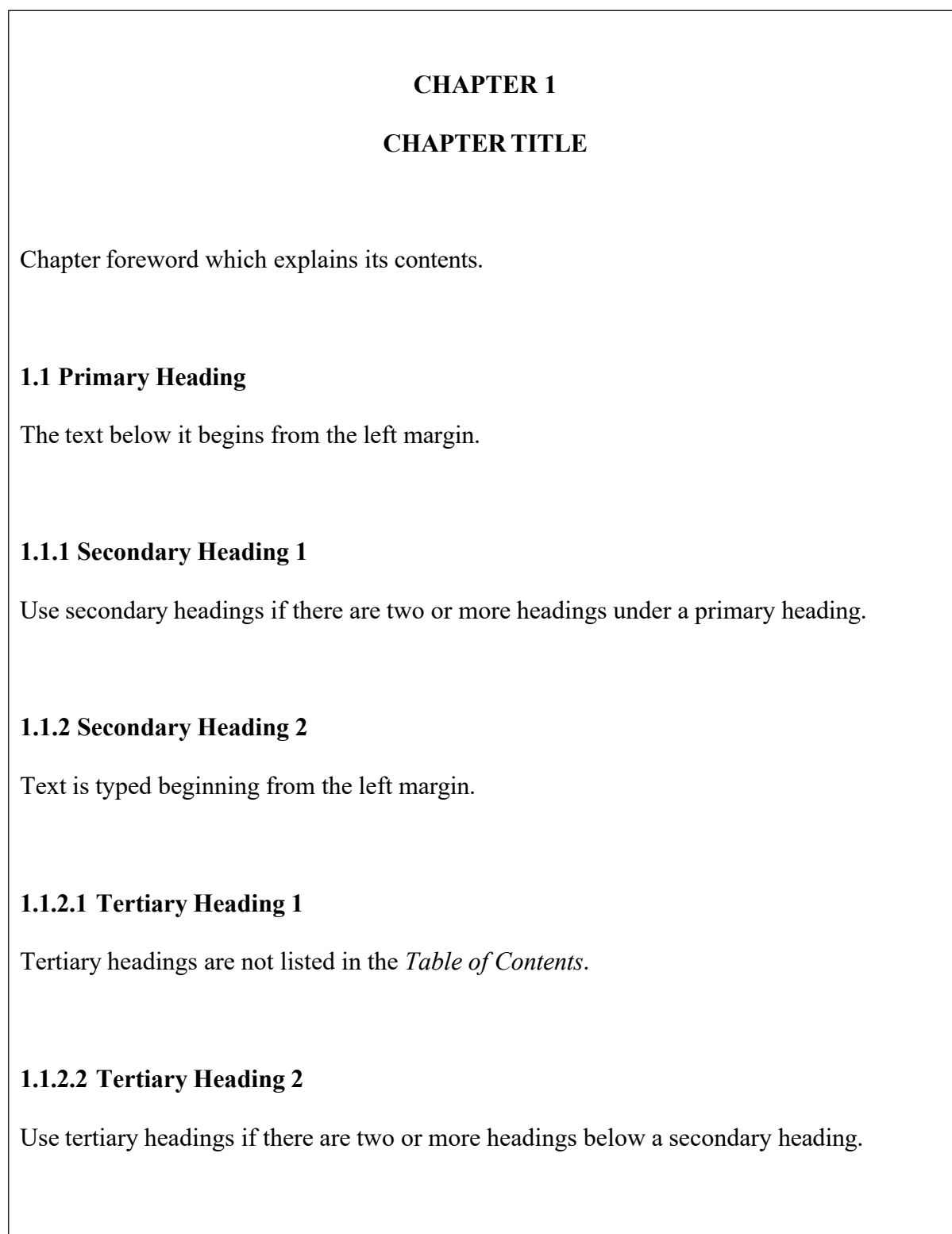
An example of the main text layout, including formatting and line spacing, is shown in Figure 7.

### 3.2.3 *Format for Numbering Headings in Main Text*

The heading numbering format used in the main text is illustrated in Figure 8.



**Figure 7: Example of Main Text Layout (Source: Faculty of Education UM, 2022)**



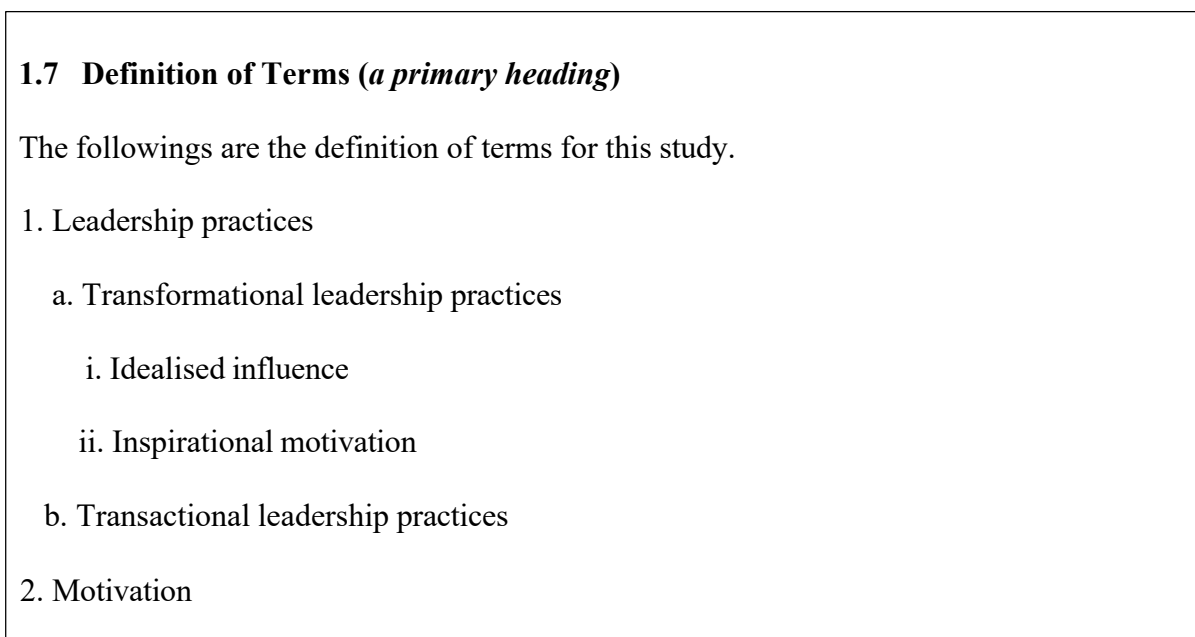
**Figure 8: Format for Numbering Headings (Source: Faculty of Education UM, 2022)**

### 3.2.4 Format for Numbering Sub-Headings in Main Text

For sub-headings under each main heading, use unbolded text with the following numbering sequence: Arabic numerals (1, 2, 3 ...), followed by lowercase letters (a, b, c ...), and lowercase Roman numerals (i, ii, iii ...).

This numbering system provides a clear picture of the relationship between chapters, headings and sub-headings and shows how they are connected.

An example of sub-headings layout is shown in Figure 9.



**Figure 9: Sub-headings Layout (Source: Faculty of Education UM, 2022)**

### 3.3 References

The formats for in-text citations, references, tables and figures must follow the latest edition of the American Psychological Association (APA) guidelines.

All sources cited or referred to in the research project – weather as direct quotations or paraphrased content – must be included in the reference list.

References must be written consistently in APA, or in another style only if approved by the Faculty. Each reference should be typed. Using single spacing format, with a double space between each reference entry. The list should be arranged in alphabetical order by the authors' surnames and should not be numbered.

The reference list must be formatted with a hanging indentation of 0.5 inch. For example:



Buchwalow, I. B., & Böcker, W. (2010). *Immunohistochemistry: basics and methods*. Berlin: Springer Verlag

Caamaño-Tubío, R. I., Pérez, J., Ferreiro, S., & Aldegunde, M. (2007). Peripheral serotonin dynamics in the rainbow trout (*Oncorhynchus mykiss*). *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology*, 145(2), 245-255.

Cakir, Y., & Strauch, S. M. (2005). Tricaine (MS-222) is a safe anesthetic compound compared to benzocaine and pentobaritol to induce anesthesia in leopard frogs (*Rana pipiens*). *Pharmacological Reports*, 57, 467-474.

Cameron, A. A., Plenderleith, M. B. & Snow, P. J. (1990). Organization of the spinal cord in four species of elasmobranch fishes: cytoarchitecture and distribution of serotonin and selected neuropeptides. *The Journal of Comparative Neurology*, 297, 201-218

In-text reference citations must include the following information:

- the last name of the author;
- the year of publication; and
- the page number (only required for direct quotations).

For summaries or paraphrases, only the author's last name and the year of publication are required. For example:

Kingston and Parker (2012) found the biggest challenges in classroom to be .... The biggest challenges in classroom were .... (Kingston & Parker, 2012).

For direct quotations – when the exact words of another author are copied – the following items must be included:

- the last name of the author;
- the year of publication; and
- the page number from which the quotation is taken.

The quotation must be enclosed in quotation marks. For example:

It was said that “What is taught and how it is to be taught entail teachers’ moral judgements and commitments” (Frank & Quiroz, 1997, p. 208).

According to Frank and Quiroz (1997), “What is taught and how it is to be taught entail teachers’ moral judgements and commitments” (p. 208).

If a quoted citation contains more than 40 words, it should be formatted as a block quotation. This means:

- the quotation is placed in a separate paragraph;
- the entire quote is indented 0.5 inch; and
- the text should be double-spaced

The general theory of relativity, on its own, cannot explain these features or answer these questions because of its prediction that the universe started off with infinite density at the big bang singularity. At the singularity, general relativity and all other physical laws break down: one couldn’t predict what will come out of the singularity. (Hawking, 1988, p. 309)

Please refer to the University of Malaya Library APA Formatting and Style Guide for detailed instructions on APA referencing. The guide can be downloaded from the [UM Library website: http://www.umlib.um.edu.my](http://www.umlib.um.edu.my).

### **3.4 Supplementary**

#### **3.4.1 Appendices**

This section supports the main body of the research report. Appendices include materials that provide additional information but are too lengthy or detailed to be placed in the main text. These may consists of research instruments (e.g., questionnaires), raw data, extended quotations, maps, photographs or tables and graphics that exceeds two pages in length.

Such materials help clarify or support the study but are not essential for understanding the main discussion.

Each appendix should be clearly labelled in order, such as Appendix A, Appendix B1, Appendix B2, Appendix C, and so on. The labels must match those listed in the List of Appendices in the preliminary section.

### **3.4.2 List of Publications and Papers Presented**

For undergraduate degrees, publication is not a requirement. However, any published works or papers presented at conferences, seminars, or symposiums that are related to the research topic are encouraged to be included in this section. The first page of each article may also be appended as supporting evidence.

Publications should be labelled sequentially as Publication A, Publication B, and so on.

## **4.0 WRITING ETHICS**

### **4.1 Plagiarism**

Students of Universiti Malaya are expected to produce original academic work. Plagiarism is considered academic misconduct and occurs when someone uses another person's ideas or work without proper acknowledgment, giving a false impression of originality.

Plagiarism may take place in the following situations:

- Copying ideas or text word-for-word from a published article or book without citation.
- Paraphrasing someone's ideas from a source without proper reference.
- Using ideas obtained through discussion, whether during conferences, seminars, forums, talks or informal conversations, without due credit.
- Using data, diagrams, tables, photographs, or any other illustrative material produced by others as if it were one's own.

Students are strongly encouraged to read the guide titled "*How to Avoid Plagiarism: A Handbook for Postgraduate Students*", by Azirah Hashim (1999) which outlines the rules and regulations to plagiarism.

### **4.2 Turnitin**

The Faculty requires the use of *Turnitin*, an online web-based plagiarism detection tool, to uphold academic integrity and minimise plagiarism. All students must subject their research reports to Turnitin prior to submission. Students are required to submit a copy of the Turnitin Similarity Report together with their research report to the Subject Coordinator at the time of submission.

The acceptable similarity index for a research report is 25% or less.

### **4.3 AI usage**

AI tools must be used responsibly, ethically, and transparently throughout the research report preparation process. Students are permissible to use AI for language editing, data analysis, and reference management, provided they retain full accountability and disclose any substantive AI involvement. However, AI must not be used for generating content without disclosure, creating falsified data, or relying on AI-generated tips or suggestions without proper critical evaluation, as doing so may raise ethical concerns regarding academic integrity and originality.

## **5.0 SUBMISSION**

### **5.1 Prior to Submission**

Students are required to obtain approval from the Subject Coordinator prior to the submission of the hardbound research report.

Students are strongly discouraged from copying the formatting used in previously submitted research reports, as such reports may not conform to the current formatting guidelines.

Failure to comply with the prescribed formatting requirements may result in a research report being rejected at the point of submission.

### **5.2 Required Documents for Submission**

Students must submit the following documents required for examination purposes:

- A softbound copy or softcopy of the research report (submission format and method must follow instructions provided by the respective programme Subject Coordinator);
- Any additional documents as required by respective programme Subject Coordinator.
- Upon completion of all required corrections (if any), students must submit the following documents for final submission: At least one (1) printed hardbound copy of the research report (or the number of copies as determined by respective programme Subject Coordinator);
- One (1) electronic copy in PDF format (submission method will be specified by the respective programme Subject Coordinator);
- Final Submission of Research Report form;
- Repository Policy for Universiti Malaya Research Report form; and
- Correction Report form (if applicable).

All the required forms can be downloaded from the MAYA portal at the following link:  
<https://umsitsguide.um.edu.my/index.html>

## APPENDIX A

### Example of Table of Contents

Note: This is just an example. Students are encouraged to discuss with the supervisors on the relevant sub-topics that need to be included in the write up.

#### TABLE OF CONTENTS

Original Literary Work Declaration Form	i
Abstract	ii
<i>Abstrak</i>	iii
Acknowledgement	iv
Table of Contents	vi
List of Figures	xiv
List of Tables	xvi
List of Abbreviations	xvii
<b>CHAPTER 1: INTRODUCTION</b>	<b>1</b>
1.1 Introduction	1
1.2 Background of the Study	3
1.3 Statement of Problem	6
1.4 Purpose of the Study	9
1.5 Objectives of the Study	9
1.6 Research Questions	10
1.7 Research Hypotheses (if any)	11
1.8 Significance of the Study	12
1.9 Scope of the Study	14
1.10 Limitations of the Study	15
1.11 Operational Definitions	17
1.12 Summary	18
<b>CHAPTER 2: LITERATURE REVIEW</b>	<b>19</b>
2.1 Introduction	19
2.2 Related Theories and Models	19
2.3 Review of Constructs and Concepts Involved	25

2.4	Review of Past Studies	27
2.5	Frameworks of the Study	45
2.5.1	Theoretical Framework	45
2.5.2	Conceptual Framework	64
2.6	Summary	65
<b>CHAPTER 3: METHODOLOGY</b>		66
3.1	Introduction	66
3.2	Research Design	68
3.3	Location of the Study	69
3.4	Population and Sample	70
3.3.1	Sample Size Determination	71
3.3.2	Sampling Method	72
3.5	Instruments of the Study	73
3.5.1	Validity and Reliability of Instruments	75
3.5.2	Pilot Study	77
3.6	Data Collection Techniques	79
3.7	Intervention Plan (for Experimental Study only)	79
3.8	Controlling of Threats to Internal Validity (for Experimental Study only)	80
3.9	Procedure of the Study	83
3.10	Ethical Concerns	86
3.11	Data Analysis	90
3.12	Summary	92
<b>CHAPTER 4: FINDINGS</b>		93
4.1	Introduction	93
4.2	Reporting of Findings	93
4.1.1	Reporting of Findings Based on Research Question 1	94
4.1.2	Reporting of Findings Based on Research Question 2	95
4.1.3	Reporting of Findings Based on Research Question 3	97
4.1.4	Reporting of Findings Based on Research Question 4	98
4.3	Summary	100
<b>CHAPTER 5: DISCUSSION AND CONCLUSION</b>		101
5.1	Introduction	101

5.2	Summary of Findings	101
5.3	Discussion	102
5.4	Implications of the Study	112
5.5	Recommendations from the Study	114
5.6	Recommendations for Future Research	116
5.7	Conclusion	120
<b>REFERENCES</b>		121
<b>APPENDICES</b>		130
A1	Instrument 1	131
A2	Instrument 2	132
B1	Letter of Permission for Using Instrument 1 in the Study	133
B2	Letter of Permission for Using Instrument 2 in the Study	134
C	Letter of Permission for Data Collection	135
D	Experts' Validation for Content Validity of the Instruments	136
<b>LIST OF PUBLICATIONS</b>		138
A	Publication 1	138
B	Publication 2	139



UNIVERSITI  
MALAYA

Published by

Faculty of Built Environment  
Universiti Malaya

2025