APPROVED THESIS TITLE

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PROGRAMME OF STUDY

MULTIMEDIA UNIVERSITY

SUBMISSION MONTH<space>YEAR

APPROVED THESIS TITLE

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REQUIREMENT FOR THE DEGREE OF

MASTER OF ENGINEERING SCIENCE

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Faculty of Engineering

MULTIMEDIA UNIVERSITY

MALAYSIA

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DECLARATION

I hereby declare that the work has been done by myself and no portion of the work contained in this Thesis has been submitted in support of any application for any other degree or qualification of this or any other university or institution of learning.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of candidate

Faculty of Information Science & Technology

Multimedia University

Date:

ACKNOWLEDGEMENTS

A brief expression of gratitude and appreciation in recognition of any assistance and support provided to the candidate throughout the research period. The font of the acknowledgement should be in Times New Roman, font size of 12pt and in 1.5 line spacing.

ABSTRACT

An abstract is a short summary is the dissertation or thesis. It serves to provide a brief overview of the objectives, significance, methodology, findings, and conclusions of the research. The primary purpose of an abstract is to present the core elements of the study in a condensed form. It should clearly state the problem statement or objectives of the research, explaining what the study aims to achieve. The abstract should also provide a brief description of the research methodology employed in the study, outlining the approach, data collection methods, and analysis techniques used. Furthermore, the abstract should summarize the key findings obtained from the research. The length of the abstract should be **at least one page**. The font of the abstract should be in Times New Roman, font size of 12pt and in 1.5 line spacing.

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LIST OF ABBREVIATIONS/ SYMBOLS

A Aeroplane

B Boy

EOQ Economic Order Quantity

FIST Faculty of Information Science and Technology

FYP Final Year Project

MMU Multimedia University

*Ω* Omega 3

*m* Mean

*s*2 Variance

*K* Setup cost

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#  INTRODUCTION

### Overview

To learn how to use Microsoft Word, please visit <http://office.microsoft.com/en-us/word-help>.

This template serves as a guideline for postgraduate candidates when writing their thesis or dissertation. It is important that candidates adhere to the prescribed organizational structure and format. However, minor variations in the format are permitted as long as they do not compromise the readability and quality of the thesis or dissertation. Candidates are strongly encouraged to consult their supervisors for further guidance for their thesis writing process.

### Length and Language of Thesis

A typical master’s thesis must be within the range of 20,000 – 60,000 words while a Ph.D. thesis is within the range of 40,000 – 100,000 words. Thesis or dissertation could be composed in either British English or US English, but it is the candidate's responsibility to ensure the consistent use of the English language throughout the entire document.

### Structure of the Thesis/Dissertation

This section provides a general structure for the research thesis or dissertation, consisting of three main sections: **Preliminary**, **Main** **Body**, and **Supplementary**. It is important for candidates to strictly adhere to the structure of the Preliminary parts. However, candidates are highly encouraged to seek guidance from their supervisors to determine the most suitable main body structure that aligns with the specific content of their research work. While the inclusion of "Appendices", “Glossary”, “Notes” and “Index” in the supplementary section are optional, it is mandatory for candidates to list their publications in the "List of Publications" section.

####  Preliminary

This section consists of the following items:

* Title Page
* Copyright Declaration
* Candidate’s Declaration
* Acknowledgements
* Dedication (if applicable)
* Abstract
* Table of Contents
* List of Tables
* List of Figures
* List of Abbreviations/Symbols
* List of Appendices (if applicable)

#### Main Body

There is no limitation on the overall number of chapters in the thesis or dissertation. It is strongly recommended that candidates consult their supervisors to determine a main body structure that best fits the specific content of their research work. Nevertheless, the following represents the basic structure for a thesis or dissertation:

* Introduction
* Literature Review
* Methodology
* Results and Analysis
* Discussion
* Conclusion
* References

Each chapter in the main body section must adhere to the following guidelines:

* Chapter should commence with a title that accurately reflects its content.
* Each chapter should start on a new page.
* Sub-sections can be utilised within chapters, if necessary, but it is advisable to limit the heading levels to a maximum of four (e.g., 1.2.2.2 Sub-Section) whenever feasible.

#### Supplementary

This section consists of the following items:

* Appendices (if applicable)
* Glossary (if applicable)
* Notes (if applicable)
* Index (if applicable)
* List of Publications

### Format Specifications

#### Thesis Margins

The thesis or dissertation should conform to the margins specified in Table 1.1.

**Table 1.1: Margins of thesis or dissertation**

|  |  |
| --- | --- |
| **Margin** | **Measurements** |
| Top | 2.0 cm or 0.79 inch |
| Right | 2.5 cm or 0.98 inch |
| Left | 4.0 cm or 1.57 inch |
| Bottom | 4.0 cm or 1.57 inch |

#### Fonts and Text Alignments

All text within the thesis or dissertation must be typed using **Times New Roman** typeface, with a font size of **12** and **justified** alignment. In the Main Body section, chapter titles should be set in capital letters, bolded, with a font size of 14, and centred alignment. For the Preliminary and Supplementary sections, section titles should be set in capital letters, bolded, with a font size of 12, and centred alignment. These formatting guidelines are summarized in Table 1.2.

**Table 1.2: Fonts and text alignments**

|  |  |
| --- | --- |
| **Section** | **Font and Alignment** |
| Title of chapter (Main Body) | * Times New Roman
* Size 14pt
* Bold
* Capital Letter
* Centred Alignment
 |
| Title of Sections in Preliminary and Supplementary | * Times New Roman
* Size 12pt
* Bold
* Capital Letter
* Centred Alignment
 |
| Content | * Times New Roman
* Size 12pt
* Justified Alignment
 |

#### Line Spacing and Paragraphs

The thesis or dissertation should have a **1.5 line spacing** throughout the text. Single spacing is only permitted in tables and figures' captions, quotations, and footnotes. The spacing between the title of a subsection and the first line of text should be 1.5 line spacing. Each paragraph should be **indented one tab (1.27 cm or 0.5 inch)** from the left margin. A **double line spacing or 24pt after spacing** should be applied between paragraphs.

To maintain readability and page layout, the first sentence of a new paragraph should not begin at the bottom of a page if only one line can fit. It should consist of at least two sentences. If it does not fit, the paragraph should be moved to the next page.

#### Pagination

Page numbers in the thesis or dissertation should be included in each page in consecutive order, adhering to the following specifications:

* Page numbers should be centred aligned at the bottom of the page, without any punctuation.
* The font size should be 12, and the typeface should be Times New Roman.
* In the **Preliminary section**, Roman numerals (i, ii, iii, ...) should be used for page numbering.
* The Title Page is an unnumbered "i" page, while numbering begins on the second page with "ii" assigned to the Copyright Declaration page.
* Starting from the **Main Body** section through to the Supplementary section, Arabic numerals (1, 2, 3, ...) should be used for page numbering.

#### Headings and Subheadings

All chapters and sub-chapters should be using numbered heading with Arabic numerals (1, 2, 3, …) and centred aligned. Chapters are numbered with the heading CHAPTER 1, CHAPTER 2, and so on, followed by the Chapter’s title. Example of the Chapter headings are as follows:

|  |
| --- |
| **CHAPTER 1****INTRODUCTION** |

 Sub-chapters can be nested and left-aligned, but it is advisable to limit them to a maximum of four levels whenever possible, as shown in the example below:

|  |
| --- |
| **2.1 Level 2 Sub-chapter title****2.1.1 Level 3 sub-sub-chapter title****2.1.1.1 Level 4 sub-sub-sub-Chapter title** |

#### Tables

Tables incorporated in the thesis or dissertation must be centred aligned and appropriately labelled based on the corresponding chapter. The caption of each table should be positioned **above** the table. In case the table includes a citation, the source of the reference must be included in the caption. Refer to Table 1.3.

**Table 1.3: Table Example**

|  |  |
| --- | --- |
| **Heading**  | **Description** |
| Example 1 | Description 1 |
| Example 2 | Description 2 |

In case of the table is occupied more than one page, continuity of the table must be explicitly indicated., as shown in Table 1.4.

**Table 1.3: Table Example, continued**

|  |  |
| --- | --- |
| **Heading**  | **Description** |
| Example 3 | Description 3 |
| Example 4 | Description 4 |

#### Figures

Figures is a visual representation such as graphs, charts, diagrams, photographs, illustrations, drawing, or any other visual material that supports or enhances the content of the thesis or dissertation. Each figure should be appropriately labelled with Arabic numerals based on the corresponding chapters, and the caption should be placed at the bottom of the figure, Refer to Figure 1.1. In case the figure contains a citation, the source of the reference must be included in the caption.



**Figure 1.1: Enrollment Process**

#### Equations

The Equation in the thesis or dissertation refers to a mathematical or symbolic expression used to represent a relationship, equation, formula, or mathematical concept. All equations in the thesis or dissertation should be adhering to the following guidelines:

* Equations must be centred and aligned properly.
* All equations should be numbered sequentially according to the chapters using Arabic numerals (e.g., 1.1, 1.2, etc.). The label is placed in parentheses “( )” and aligned to the right.

|  |
| --- |
| $J\left(w\right)= \frac{|m\_{1}-m\_{2}|^{2}}{s\_{1}^{2}+s\_{2}^{2}}$ (1.1) |

* Use appropriate mathematical symbols, operators, and notation conventions based on the field of study or discipline.
* Ensure consistent formatting for equations throughout the thesis.

#### References

Accurate and proper referencing of previous work is crucial in a thesis, and it is essential to include a comprehensive list of references. For reference citations, the following example can be used: In-text, the first citation should be (Adini, Moses, & Ulman, 1997), and for subsequent citations, use (Adini, et al., 1997) for references with more than two authors. Additional examples can be found in the "*Guideline for Preparation of Thesis*" PDF file available on the IPS Website (<https://ips.mmu.edu.my/downloads/one-stop-student-portal/>).

It is recommended that the citation and referencing style in the thesis or dissertation follows the **APA style**. It is the candidate's responsibility to ensure consistent and accurate application of the citation and referencing style throughout the entire thesis and dissertation.

### Thesis Organisation

This section provides guidance on structuring and organising your thesis or dissertation effectively. It helps you present your research work in a logical and coherent manner, ensuring that readers can easily navigate and understand the content.

#  LITERATURE REVIEW

### Description

This section provides an in-depth review, analysis and evaluation of previous and existing research and scholarly works which are relevant to a particular field or topic of study.

### Sub-headings

This section provides an in-depth review, analysis and evaluation of previous and existing research and scholarly works which are relevant to a particular field or topic of study.

#### Sub-sub-headings

This section provides an in-depth review, analysis and evaluation of previous and existing research and scholarly works which are relevant to a particular field or topic of study.

# METHODOLOGY

### Sub-headings

This chapter describes and explains the research methodology employed in your study, including the research design, data collection methods, and analysis techniques. It may include sufficient detail for readers to understand and evaluate the validity of your research methods.

Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

### Sub-headings

This chapter describes and explains the research methodology employed in your study, including the research design, data collection methods, and analysis techniques. It may include sufficient detail for readers to understand and evaluate the validity of your research methods.

Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

#### Sub-sub-headings

This chapter describes and explains the research methodology employed in your study, including the research design, data collection methods, and analysis techniques. It may include sufficient detail for readers to understand and evaluate the validity of your research methods.

Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

#  RESULTS AND ANALYSIS

### Sub-headings

This chapter presents the research findings in a clear and organised manner. Candidates can use tables, figures, and charts to visually enhance the presentation of results and ensure that the presented results directly address the research objectives and support the conclusions.

Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

### Sub-headings

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Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

#  DISCUSSION

### Sub-headings

This chapter interprets and analyses the research findings, discussing the implications and significance. The findings should be related to the existing literature and comparison is conducted.

Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

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This chapter interprets and analyses the research findings, discussing the implications and significance. The findings should be related to the existing literature and comparison is conducted.

Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

#  CONCLUSION

### Sub-headings

This chapter summarises the main findings of the research and emphasises the significance and contribution of the research work. It could also address any limitations or constraints of the study and provide suggestion for future work.

Candidates are strongly encouraged to consult with supervisors to determine how the chapters can be organised.

# REFERENCES

Adini, Y., Moses, Y., & Ulman, S. (1997). Face Recognition: The Problem of Compensating for Changes in Illumination Direction. *IEEE Transaction on Pattern Analysis and Machine Intelligence*, *19*(7), 721-732.

Goh, M., Connie, T., & Teoh, A. (2010a). An Innovative Contactless Palm Print and Knuckle Print Recognition System. *Pattern Recognition Letter*, *31*(12), 1708-1719.

#

# APPENDICES

**APPENDIX A**

**TITLE**

Appendices consist of any additional supporting material that is relevant but not essential to the main text. Examples include raw data, survey instruments, or lengthy calculations.

**APPENDIX B**

**TITLE**

Appendices consist of any additional supporting material that is relevant but not essential to the main text. Examples include raw data, survey instruments, or lengthy calculations.

# LIST OF PUBLICATIONS

**Journals**

1. Adini, Y., Moses, Y., & Ulman, S. (1997). Face Recognition: The Problem of Compensating for Changes in Illumination Direction. *IEEE Transaction on Pattern Analysis and Machine Intelligence*, *19*(7), 721-732.

**Conference**

1. Goh, M., Connie, T., & Teoh, A. (2010a). An Innovative Contactless Palm Print and Knuckle Print Recognition System. *Pattern Recognition Letter*, *31*(12), 1708-1719.