



# UNDERGRADUATE PROJECT II SBEU 4944

*Technical Paper & Thesis Format*

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**01 INTRODUCTION ON TECHNICAL PAPER**

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# TECHNICAL PAPER

- It is **a document** that describes the **process, progress, or results of technical or scientific research.**
- It might also include **recommendations** and **conclusions** of the research.
- Technical paper is the **compressed version of the FYP report.** It must be **full of fact and figure, information** and **analyses** of your results.



# TEMPLATE FORMAT DETAIL

## TITLE:

- The title must ***not to short or too long***. It can ***be different*** from your thesis, ***depend on what are you focusing*** in the technical paper.

## ABSTRACT:

- It is the ***synopsis of your technical paper***. Consist of problem statement, research aim or objective in the technical paper, methodology, main finding, analyses and conclusions.

## INTRODUCTION:

- Write a ***short literature review*** here. Please mention the research gap that you found from your reading.
- Last paragraph, write the ***objective of your research, methodology*** and ***research condition*** that you have conducted.

## METHODOLOGY:

- Explain the ***main method*** and ***procedure*** on how you conducting this research.
- It is including the ***materials' properties*** and ***analyses procedure***.



# TEMPLATE FORMAT DETAIL

## RESULT & DISCUSSION:

- Show your **RESULTS**. Make sure your figure is "**self-explained**" and **readable**. Font in the figure is not too small. Figure must be clear and not blur.
- **Explain and discuss** the **reason why the result occur** in such manner. Discuss the **similarity or contradiction** between your **results and other researchers**.
- You may get a lot of explanation of your result from the literature review readings.

## CONCLUSION:

- **Conclude the results** that you show in the previous section. Result and conclusion in the technical paper may be different with your conclusion in your thesis.

## ACKNOWLEDGEMENT:

- An opportunity to **thank those who have helped** and **supported** you personally and professionally during your dissertation process.

## REFERENCES:

- Please **write your references correctly**, according the format. There are 2 common format used in UTM which are name and year format (Ahmad et al., 2017) or numbering format [1].
- Preferable to use APA style format.

# JOURNAL TEMPLATE

VOL 3, NO.2 (2023) K-Y  
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*Abstract* – Start your abstract here...

*Keywords* – List the keywords [here](#)

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*Article History:* Received 14 January 2022, Accepted 25 March 2022, Published 31 March 2023

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List the references here. Use APA style, for example:

Kanniah, K. D., and Ho, C. S. (2017). Urban forest cover change and sustainability of Malaysian cities. *Chemical Engineering Transactions*, 56, 673-678.

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**JAGST**

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## Coastal Vulnerability Index and Impact of Erosion Along Terengganu Coastline

Fatin Irdina Isa, Haris Abdul Rahim\*, Nor Aizam Adnan, Fazly Amri Mohd  
Schools of Geomatics Science and Natural Resources, College of Built Environment,  
Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia  
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*Abstract* – Coastal erosion is a sensitive issue in Malaysia. This is because coastal erosion in Terengganu Malaysia's coastline is reliably exposed to dangers from the sea, bringing about beachfront disintegration and sea level rise. The nation is situated close to the equator in Southeast Asia, where its significant ports are arranged inside the worldwide sea and delivery courses. Straits of Malacca and the South China Sea encircled it, where the complete ocean region is two times the land region. Thus, these two unmistakable dangers antagonistically affected the physical, socioeconomic, and biodiversity along the coast. This study checked on chosen beachfront mitigation structures along the coastline of Malaysia as a wave-disintegration control and sea level rise variation considering the seaside executive's systems. This study is implemented in the state of Terengganu. The study aims to identify the changes in shorelines that are caused by coastal erosion in the years 2013, 2017 and 2021 using the Coastal Vulnerability Index (CVI) techniques from Pantai Rusila, Pantai Chendering, Pantai Batu Buruk, Pantai Seberang Takir and Pantai Menggabang Telipot at Terengganu. National Coastal Erosion Study (NCES) applies as a guideline to quantify erosion or accretion rates based on physical parameters. It can also identify the erosion area even from the social and economic outlined by NCES 2015.

*Keywords* – Biodiversity, Coastal, Coastal Vulnerability Index, Erosion, National Coastal Erosion Study (NCES)

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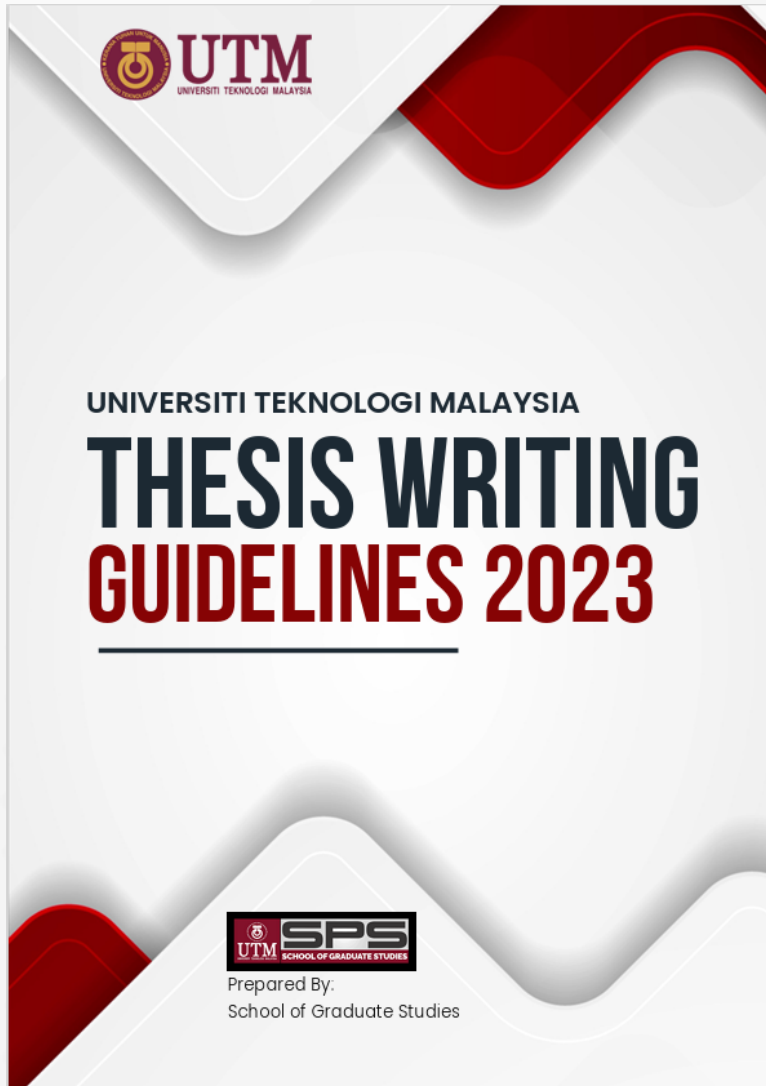
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Example of Technical Paper

# UTM THESIS TEMPLATE



- Thesis in this manual refers to ***a scientific documented report of original research conducted by a student in an ethical and professional manner*** for fulfilment of the requirement for a postgraduate degree.
- The **thesis** should be **presented in a manner** that will reflect credit on the student, the faculty, and the University.
- In UTM, a **project report** refers to the documentation of the research component prepared and submitted by the candidate for the award of a master's programme by coursework.
- A **dissertation** refers to a document submitted by a student in partial fulfilment for the award of a degree through a mixed-mode program.
- A **thesis** refers to the documentation of original research prepared and submitted by a candidate for the award of a degree for a doctoral or master's programme based on research.

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Certification of Examination	Compulsory
Title Page	Compulsory
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Dedication	Optional
Acknowledgment	Optional
Abstract	Compulsory
Abstrak	Compulsory

Subject	Status
Table of Contents	Compulsory
List of Tables	Compulsory
List of Figures	Compulsory
List of Abbreviation / Acronyms	Compulsory
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# UTM THESIS FORMAT *(Main Body)*

Subject	Status
Chapter 1: Introduction	Compulsory
Chapter 2: Literature Review	Compulsory
Chapter 3: Methodology	Compulsory
Chapter 4: Results	Compulsory
Chapter 5: Discussion	Compulsory
Chapter 6: Conclusion	Compulsory

*Note: Depending on the needs, some thesis might combine Chapter 5 & 6*

## ***Preferable:***

*Chapter 1 – Introduction*

*Chapter 2 – Literature Review*

*Chapter 3 – Methodology*

*Chapter 4 – Results and Discussion*

*Chapter 5 – Conclusion*

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Subject	Status
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The maximum number of pages for a project report/dissertation/thesis is as follows:

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These limits include tables, figures and other illustrations in the text but do not include Appendices. Maximum number of pages for appendices is 50 pages.


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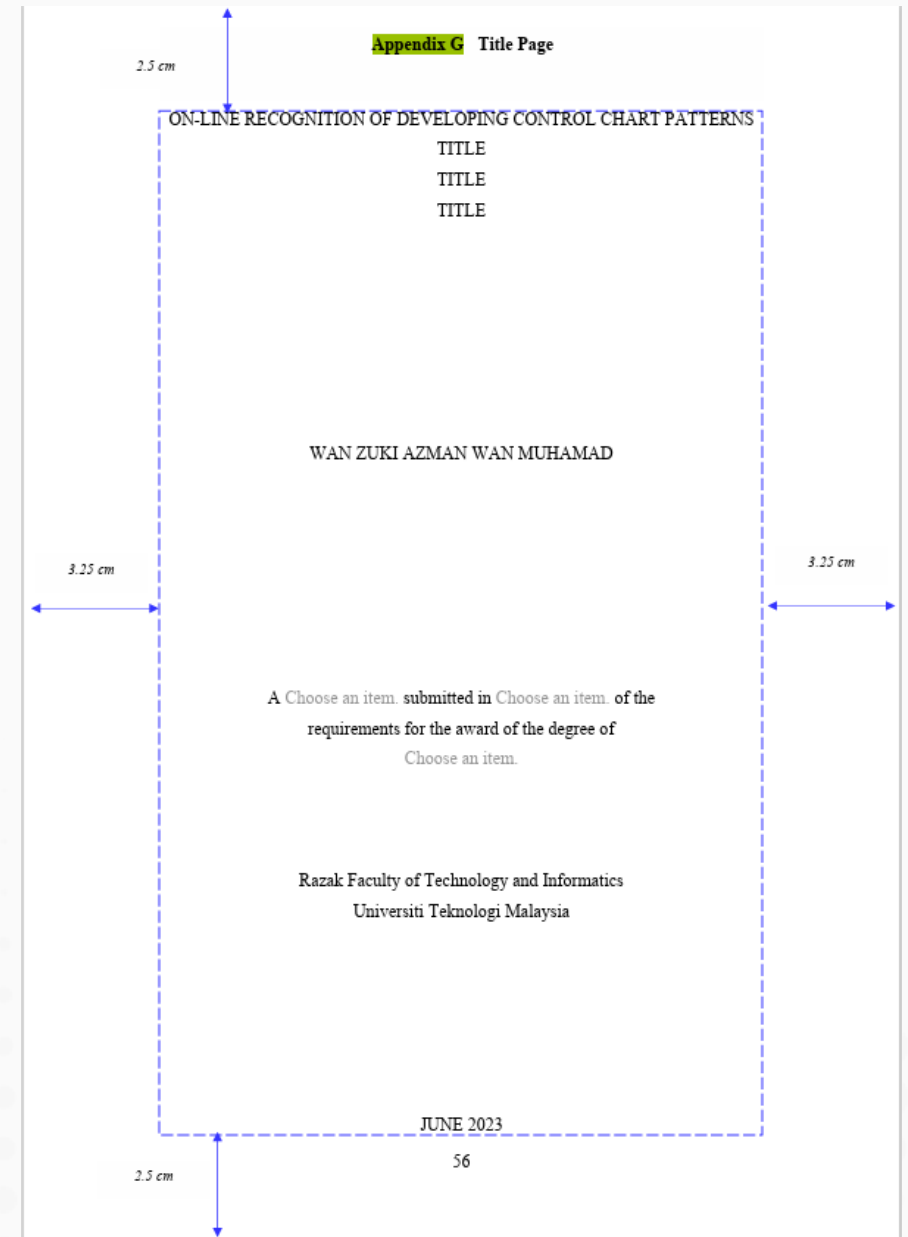
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# Title Page

- Title page must **contain information listed** in the following order:
  - i. Title of the thesis;
  - ii. Student's full name as in identity card or passport for international student;
  - iii. Statement of award for the thesis);
  - iv. Name of School (if applicable) where the student registered;
  - v. Name of Faculty/School where the student registered;
  - vi. Name of the University; and
  - vii. Month and Year of submission (Month and Year of submission of hard bound copy of the thesis).



# Thesis Title

- The title should be a clear and concise description of the focus and contribution of the research. It should **not contain more than 15 words** and **excludes grammatical words** such as articles, conjunction and prepositions.
- The title **should not contain phrases** which reflect research exercise such as “An investigation of ...”, “A preliminary study of ...”, “A study of ...”, “Analysis of ...”, “On the ...”, “Theory of ...”, “Some...”, and “Toward a ...”.
- The title **should not contain formulas, symbols or subscripts, Greek letters,** or other **non-alphabetical symbols**. Word substitutes should be used instead.
- Thesis title **should not contain acronyms** or even acronyms in brackets except for commonly used in the field of the study (e.g: DNA, GPS). For example, “GIS” should be written as “Geographical Information System” and should not be written as “Geographical Information System (GIS)”.
- Thesis title **should not contain punctuations** such as colon “:”, semi-colon “;”, etc. **except commas “,”** when necessary



# Statement of Awards

## 1. Bachelor's Degree Project Report

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## Declaration Page (*optional*)

**DECLARATION**

I declare that this thesis entitled "*title of the thesis*" is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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Date : 10 NOVEMBER 2016

## Acknowledgement (*optional*)

**ACKNOWLEDGEMENT**

1.27 cm (0.5 inch)      4 lines spacing

←→ In preparing this thesis, I was in contact with many people, researchers, academicians, and practitioners. They have contributed towards my understanding and thoughts. In particular, I wish to express my sincere appreciation to my main thesis supervisor, Professor Dr. Mohd Shariff Nabi Baksh, for encouragement, guidance, critics and friendship. I am also very thankful to my co-supervisor Professor Dr. Awaluddin Mohd Shahrour and Associate Professor Dr. Hishamuddin Jamaluddin for their guidance, advices and motivation. Without their continued support and interest, this thesis would not have been the same as presented here.

I am also indebted to Universiti Teknologi Malaysia (UTM) for funding my Ph.D study. Librarians at UTM, Cardiff University of Wales and the National University of Singapore also deserve special thanks for their assistance in supplying the relevant literatures.

My fellow postgraduate student should also be recognised for their support. My sincere appreciation also extends to all my colleagues and others who have provided assistance at various occasions. Their views and tips are useful indeed. Unfortunately, it is not possible to list all of them in this limited space. I am grateful to all my family member.

# ABSTRACT

- A short summary of the thesis/scientific paper or materials. The abstract should include the followings:
  - A **brief theme sentence** to orientate the reader on the overall issue
  - **Aim or purpose** of the research
  - The importance of the study should be explained
  - Briefly **describe the methodology** used in the study
  - Summarize the **main findings** of the study
  - **Conclusion** indicate the contribution made by the study

## **Additional Rules:**

- Abstract must be bilingual.
- The abstract should be written in one paragraph and not exceed one (1) page.
- The abstract can be written using single or 1.5 spacing.

# Table of Contents

- The Table of Contents page must start on a new page.
- It should list all sections, chapters and maximum of four sub-headings.
- The titles must be written using the same words as those written in the text

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# List of Tables

- This page should list all the tables found in the thesis. The page number of the table must also be included.
- The table numbers should be arranged according to the chapters.

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# List of Figures

- Diagrams, photographs, drawings, graphs, charts and maps are included as figures.
- The list should be written similar as the List of Tables.

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# List of Abbreviations / Symbols

- All symbols or abbreviations or notations or terminology found in the text should be listed on this page.
- They are listed in the following alphabetical order:

LIST OF ABBREVIATIONS	
ANN	- Artificial Neural Network
UTM	- Universiti Teknologi Malaysia
MTS	- Mahalanobis Taguchi System
TM	- Taguchi Method
MD	- Mahalanobis Distance

LIST OF SYMBOLS	
$\delta$	- Minimal error
$F$	- Force
$g$	- Gravity=9.81 m/s
$D, \phi$	- Diameter



# Tables in text

Table 1.1 Optimality of proposed greedy algorithms

Test Case	No. of Tasks	No. of SW Cores	Optimality (%)	
			Alg-greedy1	Alg-greedy2
MP3	16	2	94.2	77.1
MP3	16	3	92.1	84.1
JPEG	22	2	95.0	90.9
Random1	14	2	93.2	90.3
Random2	14	3	87.3	93.0
Random3	7	3	87.3	94.7
Random4	7	2	85.2	82.1

Table 2.2 Comparison of experimental and computer simulation results with different distance ratio (Revelle and Harrington, 2017)

Distance Ratio	Experiment (mean value)	Computer Simulation (mean value)
0.500	0.75	0.861
0.625	0.83	0.939
0.750	0.88	0.981
0.875	0.93	0.997
1.000	1.00	1.000

Adapted from UTM Thesis Manual 2015.

# Figures in text

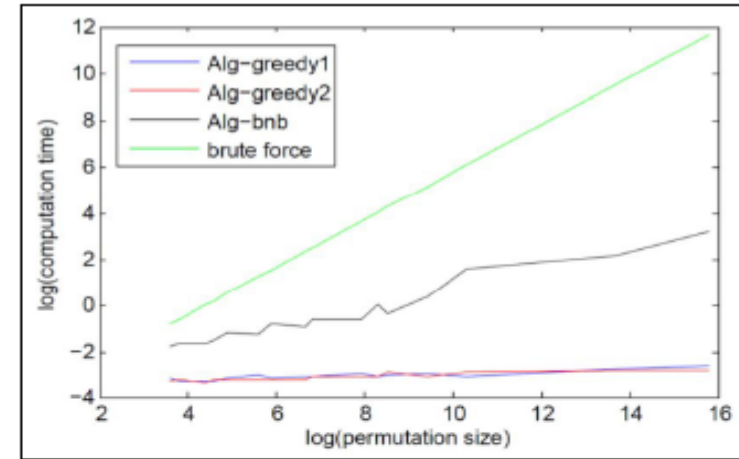


Figure 2.2 Critical time-to-area constraint result of MP3 and JPEG streaming

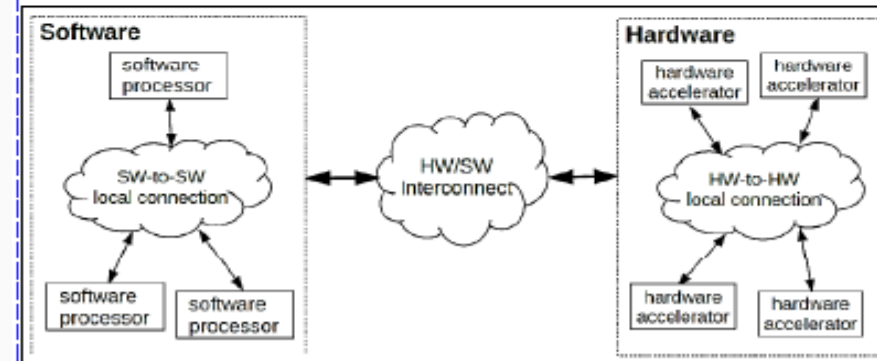


Figure 3.3 Communications among hardware and software tasks in a multi-core architecture (Cheng, 2018)

# Equations

- All equations are considered as text and numbered according to chapter. If detailed derivation is needed, it is to be placed in an appendix.
- Mathematical parameters should be written in italics but not units, numbers and mathematical functions like logarithms.
- The equations that are written on a separate line should be centred and done consistently throughout the thesis. Some equations are long and tend to be multi-line equations. If an equation breaks to multiple lines, align them properly and use only one number for the whole equation as far to the right as possible.
- The equation numbers should be enclosed by parentheses and placed at the right-hand side of the page

1.7 Equation

$$y = mx + c \quad (1.1)$$

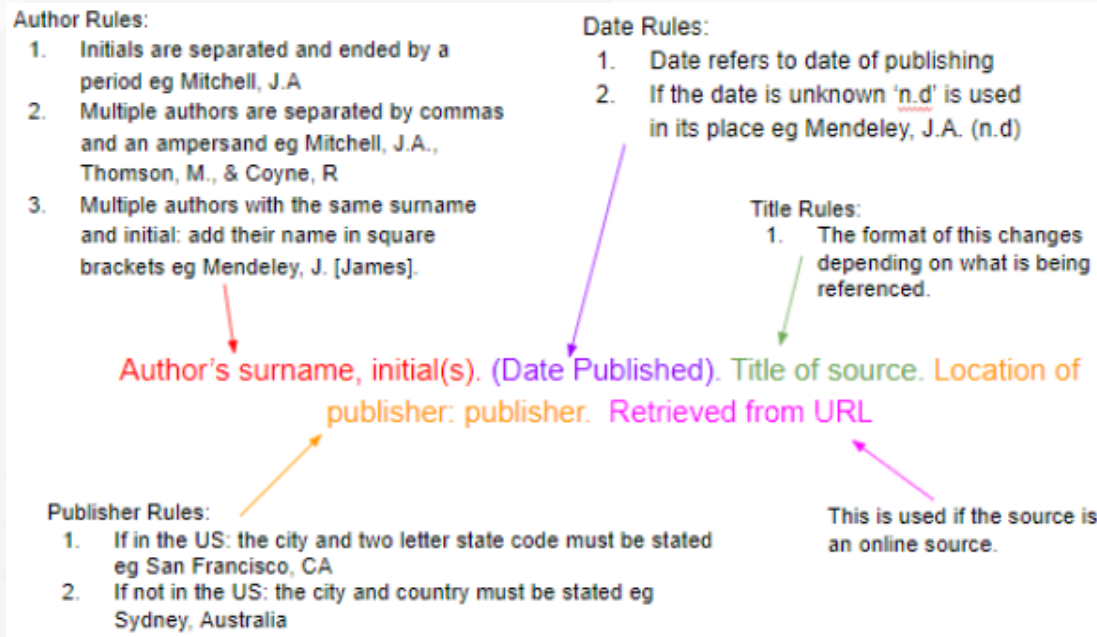
Equation (1.1) is a linear equation.

$$MD = D^2 = \frac{1}{k} ZC^{-1}Z^T \quad (1.2)$$

Mahalanobis distance is calculated using Equation (1.2).

# REFERENCES STYLE

- Please refer UTM Thesis manual for reference style
- Preferable to use APA Reference Style



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Hamden et al. (2021)



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**References**

Hamden, M. H., Din, A. H. M., Wijaya, D. D., Yusoff, M. Y. M., & Pa'suya, M. F. (2021). Regional mean sea surface and mean dynamic topography models around malaysian seas developed from 27 years of along-track multi-mission satellite altimetry data. *Frontiers in Earth Science*, 9, 665876.

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