Thesis and Dissertation Preparation Guidelines

for

Postgraduate Candidates

2018
PART 1

INTRODUCTION

1.1 DEFINITIONS

At UCSI University, a major assessment requirement leading to the award of a postgraduate qualification is the submission of a thesis or dissertation which are classified as follows:

- Doctoral programme (PhD, DBA, etc.) : Thesis
- Master’s programme (Structures A & B) : Dissertation

The following guidelines apply to all the above.

PART 2

GENERAL REQUIREMENTS

2.1 INTRODUCTION

The following section will outline the general requirements of a thesis/dissertation including language, the type of paper to be used, font style, paragraphing, pagination, layout for tables and figures, and the number of bound copies that a candidate should make for submission.

2.2 LANGUAGE

The thesis/dissertation should be written in standard UK English. As a rule of thumb, terms in languages other than English should be italicised and accompanied by an English translation in brackets. Generally accepted foreign terms i.e., those which are already listed in major English dictionaries (such as the Oxford English Dictionary and Merriam-Webster’s Collegiate Dictionary), and those that are commonly used within a specific field of study, are exempted from this rule.
2.3 PAPER SPECIFICATIONS

The paper used for the final submission should conform to the following specifications:

- Size: A4 (21 cm x 29.7 cm)
- Quality: Acid-free simili paper of at least 80gsm in weight
- Colour: White

2.4 SOFTWARE & PRINTER

Candidates may use any word processor (e.g. Microsoft Word) to write their thesis/dissertation. A printer of good quality (clean and clear print) is to be used to print the thesis/dissertation for final submission.

2.5 TYPEFACE & FONT SIZE

Candidates are to use Times New Roman throughout the entire thesis/dissertation (except those sections requiring the use of foreign language or symbols). The required font size is 12-point. However, a 10-point font size may be used for items like labels, figures, and tables.

2.6 LINE SPACING & PARAGRAPHING

The line spacing of the general manuscript should be set at 1.5. However, single spacing should be used for the following cases:

- Acknowledgements
- Abstract
- Table of Contents (Note: 1.5 spacing between entries of consecutive chapters and other major sections such as the Reference List and Appendices)
- Quotations of more than 40 words (set off from the text and indented 0.125 cm from the left and right margins)
- List of Tables, Figures, Equations and Abbreviations
- List of References (Note: 1.5 spacing between entries)
- Legends/Labels of Tables and Figures
- Glossary (Note: 1.5 spacing between entries)
• Appendices

The first line of each new paragraph should be 2 spaces (1.5 spacing x 2) after the last line of the preceding paragraph (Refer to APPENDICES 1a & 1b).

The first line of the first and subsequent paragraphs should be indented 0.125 cm or 0.5 inch from the left margin. The alignment of the text should be justified (Refer to APPENDICES 1a & 1b).

2.7 HEADINGS

All headings (except subheadings) must be in bold CAPITALS. Candidates are advised to refer to the margin specifications to facilitate binding (Refer to APPENDICES 1a & 1b).

It should be noted that long headings may occupy multiple lines. However, the space between lines of such headings should be single. Such long headings may be shortened in the table of contents to fit the requirements of the margins.

2.8 BULLETED OR NUMBERED TEXTS

For bulleted material, candidates should place the bullets/numbers indented 0.125 cm from the left margin. The space between the bullet/number should also be adjusted to 0.08 cm. This standard should be kept throughout the thesis/dissertation/project paper and in sub-bullets/sub-numbers and the proceeding texts. A 1.5 space is still maintained between lines and text-to-numbered/bulleted list.

2.9 MARGINS

The following margins should be observed:

- Top edge : 2.5 cm
- Right side : 2.5 cm
- Left side : 3.5 cm
- Bottom edge : 2.5 cm
Aside from page numbers, all other material must fit within these margin requirements (including tables, figures, graphs etc.). When oversize pages are used, the same margins must be maintained.

As a general rule, the last paragraph on a page should contain at least two full lines of text, otherwise, it should begin on the next page, and each page must contain at least one line of text.

2.10 PAGE NUMBERING

2.10.1 Position of Page Numbers

Page numbers should appear 15 cm from the right hand corner and the bottom edge. This is applicable for both vertical (portrait) and horizontal (landscape) printing. Use the same font as the rest of the text, without adornments.

2.10.2 Numbering System

Introductory pages (beginning with the Acknowledgement page until the List of Abbreviations and Symbols page) should be numbered consecutively in lower case Roman numerals: i, ii, iii, and so on. The pages for the main manuscript should be numbered using consecutive Arabic numerals: 1, 2, 3 and so on.

2.10.3 Number of Pages Required

- Doctoral Theses : 200 – 220 pages
- Research-based (Structure A) : 80 – 120 pages
- Coursework-based (Structure B) : 50 – 80 pages

The above mentioned pages are not inclusive of introductory pages, references, and appendices. The above serves as general guidelines only. Please refer to the respective Faculties/Programme Handbooks for specific requirements.
2.11 TABLES

Tables must be accurate and easy to read, and care is required in spacing, ruling, arrangement of headings, and placement with respect to the text. They are used to supplement the text, and therefore should be within the text or continue on the following page.

2.11.1 Numbering

Tables should be numbered with an Arabic numeral and given titles, even though there may be very few tables in the thesis/dissertation/project paper. The chapter and order in which the tables are mentioned in the text determine the numbering. For instance, if Chapter 5 has four tables, the tables should be labeled as Table 5.1, Table 5.2 and so on. All references to a table in the text should be by number.

2.11.2 Position

Ideally, each table should come immediately after the first reference to it. However, it is best to finish the paragraph of the text in which the reference occurs before inserting the table. If a table cannot be accommodated in the space remaining on a given page, continue the text to make a full page and place the table at the top of the next page if it is still within the same subtopic. If a table appears in the middle of a text page, two spaces (1.5 spacing x 2) should be left above the table number and below the table/notes.

2.11.3 Size and Shape

A table may occupy the full width of the page or less than the full width. In either case, each table must be centred horizontally on the page, and within the four margins stipulated in Section 2.9.

2.11.4 Width

If a table is too wide for the page, it should be turned length-wise (i.e. use the landscape format), and placed horizontally in the centre of the page within the prescribed margins in
Section 2.9. No text should be placed on a page containing such a table, also known as a broadside table. The page number appears in its usual place, at the bottom of the page, not the table.

2.11.5 Font Size

Ideally the 12-point font size is to be used. However, the 10-point font size may be used for the contents within the tables, if necessary. For any text outside the table, like table numbers, labels, titles and notes, the 12-point font size should be used.

2.11.6 Continued Tables

Long tables may be continued from page to page. The table number and title are to be placed at the beginning of the table; only the table number is given in the succeeding pages, for example, "Table 2 - Continued." Ordinarily, the column headings are repeated on every page including in a broadside table.

2.11.7 Title

Each table must have a title. Place the table number above the table, and centre both; place the title below the table number, centred and single-spaced, spanning the width of the table. Leave one single line space between the title and the table, and between table and notes.

2.11.8 Notes

There are three kinds of notes that are placed below the table:

- A general note which qualifies, explains or provides information relating to the table as a whole and ends with an explanation of abbreviations, symbols and the like, designated by the word Note., italicized and followed by a period, for example:

  Note. All significant three-way interactions were omitted. M=match process; N= non-match process.
• A specific note which refers to a particular column, row or individual entry. Specific notes are indicated by superscript lowercase letters (a, b, c) and should begin with superscript a; the superscripts should be ordered from left to right across the table by rows, starting at the top left; different tables require their own specific notes (whenever needed). For example:

\[ a_n = 25 \]

bThis participant did not complete trials.

• A probability note which indicates the results of tests of significance. Asterisks are usually used to identify probability values such as:

\[ * p < .05 \]

\[ ** p < .05 \text{ two-tailed} \]

Notes to a table should use the 12-point font size and should be ordered in the following sequence: general notes, specific notes and probability notes. Each type of note should begin from the same margin with the table on a new line and possibly justified. For example:

*Note. The participants’ responses were:*

\[ a_n = 25, \ b_n = 42. \]

\[ * p < .05, ** p < .01. \]

### 2.12 FIGURES

Figures are illustrative materials, which include drawings, paintings, photographs, charts, graphs and maps. The numbering, position, size, shape and width of figures are similar to those specified for tables.

A legend follows the number of the figure and may be a title or a caption. The legend should be single-spaced and span the width of the figure. Short legends are centred and long descriptions, legends or other explanatory matters can be placed as a footnote to the figure. A key or scale (if included) should be placed beside or within the figure.
2.13 **GRAPHS**

Graphs should be clear and easy for the reader to understand and interpret the information they seek to convey. Each axis should be clearly labeled and marked at significant intervals. Labels on the axes and curves should be oriented to be read from the bottom upwards (x-axis) or from the left to the right (y-axis).

The title of the graph should be descriptive but concise and should appear as a caption rather than on the graph itself.

2.14 **PICTURES**

2.14.1 **Photographs/Newspaper Cuttings**

Photographs, newspaper cuttings and the like must be scanned or digitally embedded in the text with the sources duly quoted.

2.15 **USE OF COLOURS**

Colours may be used only for graphs, charts, pictures and photographs. If colour is used in the thesis/dissertation/project paper, all copies of thesis/dissertation for submission must be identical.

2.16 **PRINTING**

Only one side of a sheet should be printed. After binding, the printed page should face up (right hand side of an open manuscript).

Photocopied material on any page should be numbered as part of the thesis/dissertation and should be within the margins stipulated in Section 2.9. Candidates should be mindful that photocopying reproduces colour as black, white and shades of grey. Consequently, illustrations and photographs should not depend on colour alone for interpretation. Similarly, labels or symbols rather than only colours should be used to identify lines on a graph. Shaded areas such as countries on a map should be represented by cross-hatching.
2.17 PHOTOCOPYING/DUPLICATION

All photocopied sets of the final thesis/dissertation should be clear and sharp. Carbon copies will not be accepted.

2.18 BINDING

2.18.1 Before Viva: First Submission for Examiners

Three (3) copies of ring bound thesis/dissertation should be submitted to the Faculty for the following parties:

- Internal and/or external examiners; and
- The supervisor(s)

2.18.2 After Viva: Final Copies for Submission

After final acceptance of the thesis/dissertation for submission by the examiners, candidates are required to submit four (4) printed copies of the said thesis/dissertation and a CD containing the softcopy (in .pdf or .doc or .docx format) to Library Services for binding and distribution to the following parties (the cost of the binding will be borne by the candidate):

- Library archives
- Library red spot
- The supervisor & the co-supervisor (optional)
- The candidate

IMPORTANT: Students should submit the thesis/dissertation according to the date set by the respective Faculty.

2.19 PLAGIARISM

Plagiarism is taking the works (words or ideas, published materials, etc.) of others and using them as if they were your own. Typically, what considered to be plagiarism includes copying full sentences or using the original wording from the source or paraphrasing without acknowledgement.
There are plagiarism-checking software programmes (e.g. Turnitin) available for any institution to check on the percentage of similarity between the work submitted by the students and the source. Plagiarism is considered a form of “academic theft” and it is totally not acceptable in the pursuit of academic scholarship. If plagiarism is detected in a thesis examination, the thesis is automatically failed, and the students’ candidature may be terminated.

*Note: Generally, a similarity index of \( \leq 20\% \) is acceptable; however, students are advised to check with respective faculty (as it could be discipline-specific for the acceptable similarity index) before submitting the thesis for examination.*

**PART 3**

**FORMAT**

**3.1 INTRODUCTION**

This part of the guidelines describes the layout and arrangement of the different parts of the thesis/dissertation.

**3.2 LAYOUT AND ARRANGEMENT OF CONTENT**

The thesis/dissertation/project paper should be organised in the following order:

- TITLE PAGE (Same as front cover page)
- ACKNOWLEDGEMENTS
- APPROVAL BY SUPERVISOR & EXAMINERS
- DECLARATION OF ORIGINALITY & EXCLUSIVENESS
- ABSTRACT
- TABLE OF CONTENTS
- LIST OF TABLES
- LIST OF FIGURES
- LIST OF EQUATIONS (Optional)
- LIST OF ABBREVIATIONS & SYMBOLS
3.2.1 Title Page

Details on the title page should be in CAPITAL LETTERS (scientific names should be in italics), font size 18 points, single spacing with center alignment and should be in the following order:

- Title of Dissertation
  (Arranged in inverted pyramid)
- Full Name of Candidate
  (Name as it appears in NRIC/passport)
- Programme, Faculty, UCSI University and Year
  [Year of Submission (should be according to the year the Viva is conducted)]

3.2.2 Acknowledgements

It is a standard practice to acknowledge any individual or organisation that has contributed in one way or another towards the preparation of the dissertation/thesis/project paper. The word ACKNOWLEDGEMENTS should be placed in the centre of the page. Candidates should write their acknowledgements within 1-page only (Refer to APPENDIX 2).

3.2.3 Approval by Supervisors & Examiners

The page lists the names of the supervisor(s) and examiner(s). The student’s name should be the same as that on the Title Page, Copyright Page and Declaration Page. The signatures of the supervisor(s) and examiner(s) must be original: a photocopy of the approval page is not acceptable. The name of each supervisor and examiner should be typed under the appropriate signature. No titles, degrees or designations (e.g., Dr., Prof., PhD, and Datuk, etc.) should be used on this page.
Please note that if two supervisors are listed, the first one naturally refers to the main supervisor. If external examiners are from abroad, students need not obtain their signatures or approval. A letter of assessment/evaluation may be appended, instead, if available. Note also that this approval page in the thesis/dissertation/project paper must be numbered. Small Roman numerals (i, ii, iii …) are used for the preliminary pages (all pages before the introductory chapter).

3.2.4 Declaration

Declaration must be made by candidates in order to affirm the originality of their work. It must stand on a page by itself under the heading DECLARATION OF ORIGINALITY AND EXCLUSIVENESS. The names of student, supervisor(s), examiner 1 & 2 and Dean of the respective Faculty must be typed and not handwritten (Refer to APPENDIX 3).

3.2.5 Abstract

The abstract must be on separate pages, after the page of declaration. The word ABSTRACT must be typed 2.5 cm from the top edge of the page and centred between the right and left margins. The length of the abstract should be between 300 to 400 words. Generally, the abstract should provide a concise description of the study and should not be a critique. It should not include any references. Abbreviations or acronyms must be preceded by the full terms at the first use.

Normally, an abstract should include the following information (Refer to APPENDIX 4):

i. A short introduction on the topic and problem(s) [1]
ii. Objective and aim of the study [2]
iii. Research design and methodology [3]
iv. Brief summary of research findings such as a new theory, terminology, assessment or evaluation [4]
v. Concluding remarks [5]
3.2.6 Table of Contents

The table of contents must begin on a fresh page with the word ‘TABLE OF CONTENTS’ centred between the left and right margins. It must contain the full list of contents found on the dissertation, that is, the title of each chapter and section. They should be worded exactly as they appear in the body of the text (Refer to APPENDIX 5).

3.2.7 List of Tables

This appears on a fresh page with the heading LIST OF TABLES centred between the left and right margins. The list should contain all the captions (titles) of the tables that appear in the text and worded exactly as they appear in the text (Refer to APPENDIX 6).

3.2.8 List of Figures

This appears on a fresh page with the heading LIST OF FIGURES centred between the left and right margins. The list should contain all the captions of the charts, diagrams, photographs, maps, graphs and any other kind of illustrations. The titles must be worded exactly as they appear in the text of the thesis/dissertation (Refer to APPENDIX 7).

3.2.9 List of Equations

The list of equations should contain all formulae involved in the thesis/dissertation/project paper (Refer to APPENDIX 8).

3.2.10 List of Abbreviations & Symbols

The list of abbreviations and symbols appears on a fresh page after the LIST OF EQUATIONS, and is arranged in alphabetical order (Refer to APPENDIX 9).
3.2.11 Text/Content

The content of the text includes all relevant information about the research and can be organised into chapters and sections. The insertion of tables and illustrations must be done in accordance with this guideline.

- Chapters

Each chapter in the thesis/dissertation is numbered with Roman numerals (e.g. I, II, III, IV & V). The heading of the chapter (e.g. CHAPTER I) should be 2.5 cm from the top edge of the page, followed by, the title of the chapter (e.g. INTRODUCTION) be placed at the 3rd line below this heading. Both of them should be centred horizontally between the margins (Refer to APPENDIX 1a).

The thesis/dissertation would have the following:

**Chapter 1: Introduction**
This chapter introduces the subject matter and problem(s) being studied and indicates its importance and validity. It sets out the hypotheses to be tested and both main and specific research objectives to be attained.

1.1 Background
1.2 Problem statement
1.3 Hypotheses (if applicable)
1.4 Aim and Objectives
1.5 Scope and limitation (if applicable)
1.6 Significance (if applicable)

**Chapter 2: Literature Review**
This section encompasses a critical and comprehensive review of the literature related to the topic of thesis. It is meant to act as a base for the experimental and analytical sections of the thesis. Literature selected must be up to date, and be analysed and synthesised logically. It is not simply a summary of works of different authors. The review should give the gist of each book or pertinent
findings of a journal article, explain how it relates to the topic and show why it is not sufficient to answer the research questions. Textbook materials on basic principles or theories should be kept to a minimum.

**Chapter 3: Methodology**

This section varies from thesis to thesis depending on the discipline of study and may be absent in theoretical theses. It contains a description and justification of the materials, theoretical approaches, experimental designs and methods (including statistical analysis) used to achieve the stated objectives of the study undertaken. In the social sciences, a conceptual framework will need to be included. In engineering and in the pure and applied sciences, this may include, but is not limited to, a description of the methodology, theoretical development, fundamental philosophical foundation, experimental design and standard procedure description. The materials and methods used in the study should be described in detail and concisely such that a reader would be able to replicate the experiment solely with the information contained in this section. References must be cited for published protocols or methods. Relevant ethical approval needs to be obtained and the details must be included in this chapter.

**Chapter 4: Results & Discussion**

This may be a combined chapter or separated into 2 chapters. This section may be broken down into subsections. The section presents a complete account of the results obtained in the study in the form of text, figures or tables so that the key information is highlighted. The same set of results or data should not be presented in more than one format (e.g. either as a table or figure, but not both). When results are placed in one chapter, sub-headings may be used to demarcate the different aspects of the study. The discussion section bridges the data presented or described in the preceding section, and contains the analyses or interpretations of the results obtained, and the conclusions drawn. Students should discuss these results in relation to the hypotheses or objectives set out in the Introduction, and how they fit into the
existing or current body of knowledge. The significance and implications of the main findings should be made clear.

Chapter 5: Conclusion

This chapter is important since it illustrates the significance of the study and stresses the findings upon which a conclusion or conclusions are drawn in line with the objectives set, acknowledges the limitations, and suggests further research which may be carried out on the topic.

• Sections and Subsections

Text in each chapter can be written into major sections and subsections. For major sections, it is numbered as first level (e.g. 1.1., 1.2, 1.3, ……) while subsections are numbered as second level (e.g. 1.1.1, 1.1.2, 1.1.3, ……). The next level should be represented by alphabets [e.g. (a), (b), (c), ……] (Refer to APPENDIX 1b).

• Tables

(Refer to Section 2.11 & APPENDIX 10).

• Figures

(Refer to Section 2.12 & APPENDIX 11).

*No titles or legends are to be placed in the figures.

3.2.12 References

The list of references should begin on a fresh page with the heading REFERENCES situated 2.5 cm from the top edge of the page and centred horizontally between the margins. This section should contain all the sources referred to in the text. Sources not referred to in the text should not be listed.
The recording of references should follow the required system as stipulated by the respective disciplines. For further details, please refer to PARTS 4 & 5.

3.2.13 Appendices

Appendices should be numbered 1, 2, 3... as they appear in the main text. The heading should be 2.5 cm from the top edge of the page and centered horizontally between the margins. Each appendix should have its own title.

If Appendices are included, they should be listed according to their titles in the Table of Contents (Refer to APPENDIX 5).

3.2.14 Cover of the Thesis/Dissertation

Check that all pages are in the correct order before binding. The thesis should be bound with a hard cover and the binding should be of a fixed kind in which pages are permanently secured. The colour of the cover is per the following:
- Doctoral Thesis – Marron
- Master’s Thesis – Dark Blue

PART 4

REFERENCES WITHIN THE TEXT/IN-TEXT CITATION

4.1 INTRODUCTION

References in the body of text are made to acknowledge the source of anything which is taken from other books, articles or papers. The complete bibliographical details are recorded in the list of references at the end of the thesis/dissertation.

The candidate should follow the AUTHOR-DATE SYSTEM consistently throughout the thesis/dissertation.
4.2 AUTHOR-DATE SYSTEM

In this system, references within the text must include only the author and date of publication as in the following examples:

Mohd Azman (2001)
Chomsky (1981)

i. If the name of the author has a surname, only the surname is written, without any initials.

ii. The names of Malay and Indian authors may be shortened to the respective author’s given name. As for Chinese authors, the family name may be used. Examples:

4.2.1 Sole Author

The surname of the author followed by the year of publication is written in a relevant place in the text:

i. Brown (2003) has proven that ...

ii. In a study on the lipid oxidation (Ang 2002) …

If the author’s name is used as part of the sentence, as in examples (i), only the year of publication is within brackets. If it is not, both the name of the author and the date of publication, without a comma, are placed within brackets. In cases where both the author’s name and the date of publication are part of the sentence, brackets are not necessary. For instance:

i. In 2002, Wong examined …

4.2.2 Co-Authors

a. Where the work of two co-authors is referred to, then both names must be mentioned each time it is referred to:
i. As James and Bonds (2006) both point out…

ii. As has been proven (Abdul Rahman and Asma 2001)

b. Where reference is made to a work authored by three or more people, the name of the first author is given followed by “et al.” and the year of publication. The word “et al.” must be written in *Italic*:

i. Brown *et al.* (2005) has shown that….

ii. …has been studied (Mohd Abdullah *et al.* 2006)

### 4.2.3 Corporate Author

Reference to works not by an individual author but by an organisation is written thus:

a. (Ministry of Health, Malaysia 2005)

b. The name of the institution (organisations, government agencies etc) can be abbreviated.

### 4.2.4 Authors with the Same Name

If the list of references includes works by two or more authors with the same name, to avoid confusion, the full name or initials of each author must be used each time one of these works is cited.


### 4.2.5 Multiple References

Two or more references made in the same place should be separated by semicolons. The references should be arranged in yearly order in which the latest year should come last. If the references are of the same year, alphabetical order should be followed.

(Steven 1999; James 2000; Robert 2000; Oliver 2001)

Where more than one reference is made to the same author or authors of different publications, the year of publication of each is separated by a comma.

(Peter *et al.* 1999a, 1999b, 2000)
PART 5

LIST OF REFERENCES

5.1 INTRODUCTION

Titles of all published material such as *titles of books* and *journals* must be italicised and written in full. The reference list should be typed according to the following guidelines, based on the Author-Date System.

5.1.1 Author’s Name

The author’s name should be written in full, as it appears on the title page of the publication, or in the copyright information containing the Cataloguing-in-Publication-Data, without any titles or honorifics.

a. The name of a Western author or an author with a family name must first be shortened to the family name, and the rest of his name in initials. The initials are written after the family name, and are preceded by a comma. For examples:

- Humprey John Moule Bowen is written as Bowen, H.J.M.
- John Fingerald Kennedy is written as Kennedy, J.F.

b. Names of Malay, Chinese and Indian authors that are written in full should be similarly recorded. A name that has initials is written as in the following examples. In other words, initials follow the name.

- H.M. Dahlan is written as Dahlan, H.M.
- S.K. Cheong is written as Cheong, S.K.
- R. Shanmugan is written as Shanmugan, R.
5.1.2 Titles of Publications

Use CAPITAL LETTERS for the initial letter of the title, and initial letter of each word of a proper name. The rest of the title should be in lower case, except if the word is an abbreviation or acronym consisting of capital letters. Example:


5.1.3 Types of Publications

References should be arranged in alphabetical order according to author’s name. Different formats are adopted for different types of publication sources as shown in the following:

(a) **For articles in journals, with single author:**


(b) **For articles in journals, having co-authors:**


(c) **For book:**


(d) **For thesis/dissertation:**


(e) **For newspaper:**

For sections (f) to (h): Sources from website are restricted to less than 20% of the total number of references.

(f) **For online reference material (with author & date):**

(g) **For online reference material (with author, organisation & date):**

(h) **For online reference material (with no date):**
APPENDIX 1 (a)

EXAMPLE OF FIRST PAGE OF CHAPTER I

CHAPTER I

INTRODUCTION

1.1 BACKGROUND/GENERAL OVERVIEW

Long time ago, while the Malays of Southeast Sumatra, beginning with the kingdom of Srivijaya in the 7th century, long houses

1.2 OBJECTIVES/AIMS OF STUDY

The objectives of this study were:

i. To investigate the effect of the extraction parameter including types of solvent used

ii. To determine the optimal extraction for phenolic content
APPENDIX 1(b)

EXAMPLE OF FIRST PAGE OF CHAPTER II

2.1 ANTIOXIDANT

Antioxidants can be divided into preventive antioxidants and chain-breaking antioxidants (Ou et al. 2002).

2.1.1 Mechanism of antioxidant capacity of pummelo, limau purut, papaya, mango, and pineapple

Antioxidants defense against the free radicals by binding to the metal ions, reducing hydrogen peroxide, and quenching superoxide.

(a) Free radical scavenging capacity
APPENDIX 2

EXAMPLE OF ACKNOWLEDGEMENTS

First of all, I would like to express my grateful appreciation to my supervisor, Dr. Johann Karl Nestler for his excellent guidance and mentorship. Thanks for his endless encouragement throughout these few months, and his wise advises and suggestions to improve the outcome of the study. This dissertation would not been possible to complete without his input and guidance.
APPENDIX 3

EXAMPLE OF DECLARATION OF ORIGINALITY AND EXCLUSIVENESS

DECLARATION OF ORIGINALITY AND EXCLUSIVENESS

I hereby declare that the dissertation is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UCSI or other institutions.

STUDENT’S NAME & SIGNATURE

Date:

Alignment should be justified
APPENDIX 4

EXAMPLE OF ABSTRACT

Abstract

Obesity is a chronic condition defined by an excessive body fat accumulation. It is increasing in prevalence and has become a major public health problem. \( TNF-\alpha \) has been shown to increase transcription of the gene in adipocytes and is implicated in the development of obesity and insulin resistance. Polymorphism at position -308 involved substitution of guanine for adenine. \(^1\) [The aims of this study were to genotype the G-308A polymorphism at the promoter region of the \( TNF-\alpha \) gene and to investigate its association with increased BMI and WHR, genders and races.]\(^2\) [A PCR-RFLP adopted, using specifically designed forward and reverse PCR primers and \( NcoI \) restriction enzyme.]\(^3\) [Restriction digestion reveals a two-allele polymorphism that produces 3 bands of different sizes: a 147 bp fragment for A allele and two fragments of 126 and 21 bp for G allele. Interestingly, homozygous A/A was not detected in this UCSI cohort. Data from a total of 296 subjects (144 males and 152 females) were combined and \( t \)-test and ANOVA (SPSS, Chicago) were performed to detect the association of the observed genotypes with different parameters (i.e., age, gender, race, BMI and WHR). The genotypic frequencies for G/G and G/A genotypes were 69.59% and 30.41% respectively, while allelic frequencies for G and A alleles were 84.80% and 15.20% respectively. Although not significant, subjects with G/A genotypes showed slightly higher mean BMI and WHR values compared to G/G genotypes amongst the females. The Malays compared to other races, have higher prevalence of G/A genotype, higher risk for overweight and obesity and increased health risk. Overall there is no observable significant correlation between genotypes and increased BMI or WHR values according to genders and races.]\(^4\) [Further studies can be aimed at larger cohort size, equal number of different races and collaboration with clinicians for association study involving disease groups.]\(^5\)
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<td>41</td>
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<th>Description</th>
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<td>The fatty acid composition of adipose tissues from various sites of cattle and sheep</td>
<td>19</td>
</tr>
<tr>
<td>3.3</td>
<td>Proximate composition of raw sausage containing different types and amounts of palm fats</td>
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</tr>
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## APPENDIX 8

### EXAMPLE OF LIST OF EQUATIONS

<table>
<thead>
<tr>
<th>Equation No.</th>
<th>Equation</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>( \text{ArOH} + \text{DPPH}^* \rightarrow \text{ArO}^* + \text{H-DPPH} )</td>
<td>19</td>
</tr>
</tbody>
</table>
| 3.5          | \( Y_3 = 2195.41 + 172.36X_1 - 52.60X_2 - 345.97X_1^2 
\quad - 75.39X_2^2 - 152.34X_1X_2 \) | 41   |
## LIST OF ABBREVIATIONS AND SYMBOLS

<table>
<thead>
<tr>
<th>A</th>
<th>Antioxidant radical</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of variance</td>
</tr>
<tr>
<td>α</td>
<td>Alpha</td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Vitamin B1 (Thiamine)</td>
</tr>
<tr>
<td>BHA</td>
<td>Butylated hydroxyanisole</td>
</tr>
<tr>
<td>.</td>
<td></td>
</tr>
<tr>
<td>v/v</td>
<td>volume per volume</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>Ascorbic acid</td>
</tr>
<tr>
<td>W</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>watts</td>
</tr>
<tr>
<td>w/v</td>
<td>weight per volume</td>
</tr>
</tbody>
</table>
### APPENDIX 10

#### EXAMPLE OF TABLES

**TABLE 1.1  Development of the tourist industry from 1986 to 1994**

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of Rooms</th>
<th>Tourist Arrivals</th>
<th>Income (RM billion)</th>
<th>Number of Hotels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>862</td>
</tr>
<tr>
<td>1987</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>905</td>
</tr>
<tr>
<td>1988</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>914</td>
</tr>
<tr>
<td>1989</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>958</td>
</tr>
<tr>
<td>1990</td>
<td>7.4</td>
<td>4.5</td>
<td>-</td>
<td>989</td>
</tr>
<tr>
<td>1991</td>
<td>5.8</td>
<td>4.3</td>
<td>-</td>
<td>1049</td>
</tr>
<tr>
<td>1992</td>
<td>6.0</td>
<td>4.6</td>
<td>-</td>
<td>1085</td>
</tr>
<tr>
<td>1993</td>
<td>6.5</td>
<td>5.2</td>
<td>-</td>
<td>1090</td>
</tr>
<tr>
<td>1994</td>
<td>7.2</td>
<td>8.4</td>
<td>-</td>
<td>1128</td>
</tr>
</tbody>
</table>

[Adapted from Tourism Development Board, Malaysia 1994]

**TABLE 4.3  Effects of different types of solvents on total phenolic content (TPC) of *limau purut* peels (n=2)**

<table>
<thead>
<tr>
<th>Solvent types</th>
<th>TPC (mg GAE/100g DW)</th>
<th>% RSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>60% Acetone</td>
<td>1255.4 ± 46.6(^a)</td>
<td>3.7</td>
</tr>
<tr>
<td>60% Ethanol</td>
<td>1229.6 ± 21.8(^a)</td>
<td>1.8</td>
</tr>
<tr>
<td>60% Methanol</td>
<td>1250.4 ± 61.9(^a)</td>
<td>5.0</td>
</tr>
</tbody>
</table>

\(^a\)Values in each column that are followed by different letters are significantly different (\(p<0.05\)).
APPENDIX 11

EXAMPLE OF FIGURES

FIGURE 2.2 Basic flavonoid structure. [Adapted from Pietta 2000]

FIGURE 3.2 Agarose gel electrophoresis of genomic DNA samples. 1

1 A total of 5 μl per well of concentration adjusted genomic DNA sample (0.1 μg/μl) was electrophoresed on a 1% agarose gel. Lane M contained Hind III DNA marker while Lane 1 – 9 contained genomic DNA sample from 9 subjects respectively.
APPENDIX 12

EXAMPLE OF EQUATIONS

Equation (1.1):

\[ \text{Na}^+_{(aq)} + \text{OH}^-_{(aq)} \rightarrow \text{NaOH}_{(aq)} \]

Equation (1.2):

\[ Y_1 = 1238.95 - 32.09X_1 + 11.27X_2 - 9.52X_3 - 119.89X_1^2 - 9.54X_2^2 + 8.26X_3^2 \\
- 9.72X_1X_2 + 14.62X_1X_3 - 3.59X_2X_3 \]
APPENDIX 13

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APPENDIX 14

EXAMPLE OF APPENDICES

APPENDIX 1

LIMAU PURUT PEELS

Wet *limau purut* peels