

## Final Year Project Guidelines for Thesis Writing

### 1.0 FORMAT

#### 1.1 Thesis Submission

**Final Draft Thesis:** The printed Final draft copy submitted should not be bound. Students are required to submit loose copies (use paper clip) to the School’s office on the announced date set on the 15<sup>th</sup> Academic week by 4.00 pm. The full title, the name of Author and Supervisor, the University and the month and year submitted should be printed on the front title cover.

**Final Thesis:** For the final copies of thesis submitted after correction, students are to print **2 copies** (Photostat copies are not accepted) of which one copy must be bound and one printed copy unbound (use paper clip). Students need to submit three Cds containing their thesis in pdf file. Please follow instructions set by the school for final submission of thesis.

**Important Note:** Students are to make sure that the “Declaration” form has been signed together with the Supervisor before submission of the final draft copy and the final thesis to the School’s Office.

#### 1.2 Length of Thesis

As guidelines, students are advised to keep to the total pages of around 70-100 pages. However, mandatorily, the final year project thesis should do not be less than 70 pages (min. pages) or exceeding 120 pages (max. pages).

#### 1.3 Typing

##### 1.3.1 Typing Quality

The thesis should be typed, double-spaced, on one side of the paper only. Computer print out must attain a minimum quality standard.

Candidates are encouraged to use either one of the font and size as follows:

Font	Size	Spacing
Times New Roman	12	Double-spacing
Arial	11	Double-spacing

##### 1.3.2 Spacing

While double-spacing is generally used throughout the text, single spacing is recommended for long Tables,

long quotations, notes, footnotes, multiline captions and bibliographic entries.

#### 1.4 Margins

The stipulated margins for the general text are as follows:

Top edge	2.5 cm
Right side	2.5 cm
Left side	3.5 cm
Bottom edge	2.5 cm

#### 1.5 Pagination

All numbers are placed without punctuation and about 1.0 cm from the top edge, either above the middle of the lines of text or in the upper right-hand corner with the last digit even with the right-hand margin. Alternatively, numbers may be position about 1.0 cm from the bottom edge below the middle of the lines of text. Consistency is more important in the choice of the position of the page numbers.

The *Preliminaries* are numbered in consecutive lower case Roman numerals (i, ii, iii, etc).

The *Title Page* at the front of the thesis is considered to be page i, but the number is not typed. Roman numeral, ii appears on the first page that follows the *Title Page*.

The *Text* and all *References* and *Appendix (Appendices)* pages are numbered consecutively in Arabic numerals (1,2,3, etc) beginning with 1 on the first page of the text. Every page on which any typing and drawing appear must have a number except for the *Title Page*.

#### 1.6 Subdivision

The internal organization of the *Text*, should be used consistently through out the thesis. The text should be divided into chapters. The *Text* in each chapter should be organized based on chapter numbers and content numbers in sequence. For eg. Chapter 1, Chapter 2, Chapter 3. Sub-divisions are also permitted. Content of each Chapter may be divided under headings and sub-headings such as 1.1, 1.2, 1.3 and so on.

## 1.7 Notes and Footnotes

In the field of Science and Engineering, footnotes are not encouraged and should be kept to a minimum. The font size used for notes and footnotes should be smaller than that employed in the general text.

## 1.8 Tables

Tables must be properly centered on the page within the prescribed margins. Each Table must bear a reference number (in Arabic numeral) and a caption. The number must correspond to a similar number in the text. The Tables in each Chapter must be placed close to the discussion related to the Table and to number them in sequence. For example, tables found in Chapter 4 should be numbered as Table 4.1, Table 4.2 and so on.

## 1.9 Figures

Figures could be illustrations or graphs. The word Figure or Fig., its number (in Arabic numeral) and its caption are placed below the Figure. A figure should not normally extend more than one page. As with Tables, Figures should be arranged close to the discussion and analyses and numbered in sequence, such as Figure 2.1, 2.2 2.3 and so on for figures in Chapter 2.

## 1.10 Photographs

Photographs should be considered as Figures also and are numbered in Chapter and sequenced in a numerical order such as Figure 1.1, 1.2, 1.3 and so on. Photographs should be of size smaller than a one page and printed on the same quality paper as the thesis and its caption are placed below the Photograph. In the final hard bound copies, photographs must be scanned to avoid from being removed from the thesis.

Line diagrams should be drawn with the aid of a computer or with mechanical aids using black Indian ink or equivalent on white paper.

## 2.0 LAYOUT OR ARRANGEMENT OF CONTENTS

Every thesis is composed of four parts: The *Preliminaries*, the *Text* and the *Reference Material* and *Appendices*. Each part has several sections which may be arranged in a numerical sequence of chapters.

## 2.1 The Preliminaries

The *Preliminaries* are made up of a number of sections. The heading of every section must be in capital letters and is centered without punctuation about 2.5 cm from the top of the page: the text of listing begins four spaces below. All pages in the *Preliminaries* are numbered in lower case Roman numerals.

### 2.1.1 The Title Page

This page must contain the following information:

- (a) Title of Thesis
- (b) Full name of Author
- (c) The Degree for which the thesis is submitted
- (d) Month and year in which the thesis is submitted for examination.

The paging for this page is (i) but is not typed.

### 2.1.2 Acknowledgements

All thesis should include a brief statement of thanks to the *Supervisor(s)*, to the School and in recognition of any special assistance such as scholarships from certain sources or grants, assistance obtained in research, utilization of special equipment or technical expertise etc.

### 2.1.3 Table of Contents

The titles of parts, sections or chapters and their principal sub-division should be listed in the Table of Contents and must be worded exactly as they appear in the body of the thesis. It is advisable to use numbers for Chapters and its headings (eg. 5.1), sub-headings (eg 5.1) and sub-sub headings (eg. 5.1.1). For further divisions of headings, small letters within parenthesis [eg. 5.1.1 (c)] may be used. Try to avoid sub-sub-sub headings (eg. 5.1.1.1). This system of numbering, combined with careful indentation and the judicious use of upper and lower case and *italics*, could give at a glance the main and subordinate headings and their relationship to one another.

### 2.1.4 List of Tables, Figures and Plates

The lists for *Tables*, *Figures* and *Plates* are prepared separately using the same numbers and captions that appear in the *Tables* or *Figures* in the *Text* or in the *Appendices* such as Table 1.1, Table 1.2 or Figure 2.1, 2.2 and so on.

### 2.1.5 List of Symbols, Abbreviations or Nomenclature

In the presentation of a Thesis, these lists should appear after the lists of Tables, Figures, and Plates (if any).

### 2.1.6 Abstract

An abstract in both Bahasa Malaysia and English must be given, the former version appearing before the latter. Both the Bahasa Malaysia and English version must have the *Title of Thesis* placed at the top and centered without punctuation, about 2.5 cm from the top.

An abstract is a digest or a summary of the entire thesis. It should give a brief exposition of the research problems and a summary of the findings in the context of the whole area of study. This section should be double-spaced and consists of only one paragraph. It is advisable that the abstract does not exceed one page. The abstract should be placed immediately before the first part/chapter of the thesis.

## 2.2 The Text

The text is made up of chapters with a number of sections and sub-sections. Its internal organization is left to the student and his/her Supervisor(s). It normally starts with an **INTRODUCTION** which highlights the problem(s) under investigation by describing the status of the problem(s) conceptually and theoretically. Besides that, it is needed to set forth, the scope and objectives of the study and outlines the plan of action or research protocol [based on the status of the problems (s)]. The introduction may include a fully-referenced review of the existing literature. However, the literature survey is written as a separate chapter under the heading of **LITERATURE REVIEW**. Materials cited should be relevant to the topic of research.

The subsequent chapters or sections normally include the following:

**MATERIALS AND METHOD:** A detailed description of the research methods and materials used. *Experimental* methods should be so described that another worker will have no difficulty carrying them out.

**RESULTS AND DISCUSSION:** The results obtained can be presented as a series of *Figures, Tables*, etc with descriptive **Text** and analysis of data.

This section must also emphasize on discussing the outcome of the research in relation to the evidence obtained from the research work and theories reported. Try avoiding repeating results in the discussion.

**CONCLUSION(S):** These are usually treated as the last major division of the text. It gives a summary of the results obtained.

**RECOMMENDATIONS FOR FUTURE WORK:** This section, which is optional, follows the *Conclusion* if the subject matter permits.

## 2.3 The Reference Materials

### 2.3.1 References (or Bibliography)

Any thesis which makes use of other works, either in direct quotation or by reference, must contain a bibliography listing these sources. This section begins on a fresh page bearing the heading **REFERENCES** or **BIBLIOGRAPHY** in capital letters, centered without punctuation, about 2.5 cm from the top. The list of references begins four spaces below the heading and is double-spaced between entries but single-spaced within each entry. All references cited are listed in **alphabetical order**. There is no necessity to number the References. References must be presented according to the **Harvard System**. References for periodicals should be listed as follows: Author's surname and initials, year of publication in bracket, exact title of paper (if paper is part of a proceeding or symposium or a Seminar report), title of a book or a proceeding/symposium title (type in *Italic*), including the edition, initial and final page numbers, place published, name of publisher.

These references must be reflected in the text at appropriate places in square bracket. In the case of web pages, complete web page address with the retrieved date has to be enlisted. List of references should be as per use in the text of the thesis.

For eg:

Adams, M.D. (1989). The Mechanism of Adsorption of Aurocyanide onto Activated Carbon - The latest Developments and Practice Ramifications. In *Proceedings of RANDOL Gold Conference*, Sacramento, USA. 166-168.

Bhappu, R.B. (1990). Hydrometallurgical Processing of Precious Metal Ores. In *Gold Advances in Precious Metal Recovery*. Arbiter, N and Han, K.N. eds, 2<sup>nd</sup> ed. Pennsylvania, USA: Gordon and Breach Science Publisher, 67-80.

In the Harvard system, the titles of books are in *Italics* followed by the town and publisher. For eg:

Conn, E.E., Stumpf, P.K., Bruening, G. & Doi, R.H. (1987). *Outlines of Biochemistry*, 5<sup>th</sup> ed. New York: John Wiley & Sons.

Reference to periodicals should be listed as follows:

Ukrainczyk, M, Kontrec, J., Vesna, B., Ljerka, B. and Kralj, D. (2007). Experimental Design Approach to Calcium Carbonate Precipitation in a Semicontinuous Process. *Journal of Powder Technology*, **171**, 192 – 199.

### 2.3.2 Appendices

This section if it is included, must be useful and must be referred to in the *Text*. It contains supplementary illustrative material, original data and quotations too long for inclusion in the text or not immediately essential to an understanding of the subject.

It provides a convenient way of preventing the reader from getting side-tracked from the main body of the thesis. For described here.

This section is separated from the preceding material by a cover sheet bearing the heading **APPENDICES** in capital letters (or if there is only one, **APPENDIX**), centered without punctuation. This sheet is neither counted nor numbered.

This section may be divided into Appendix A, Appendix B, etc. such divisions being treated as first order divisions. Each Appendix with its title, if it has one, should be listed separately in the Table of Contents as a first order division under the heading **APPENDICES**.

**Tables** and **Figures** in the **Appendices** must be numbered and captioned and also listed in the **List of Tables** and **List of Figures** (if these are used) in the **Preliminaries**.

These notes are prepared as Thesis Writing Guidelines for final year project students. If there are any queries or doubts on writing the thesis, please refer to your respective Supervisors or to the FYP Monitoring Committee.

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### **Reference:**

These Notes have been extracted from:

“Guide To The Preparation of Masters and Ph.D Thesis”, Institute of Postgraduate Studies (IPS), USM.

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