Final Year Project Guidelines

TABLE OF CONTENTS

1.0   INTRODUCTION

This guide is taken from UNIMAS Graduate Studies Unit and is designed to help undergraduate students of the Faculty of Computer science and Information Technology, UNIMAS in the preparation of their final year project reports. It deals only with the submission and physical format of the reports. It is the responsibility each student to ensure that his or her report conforms to the Guidelines set out below. Further information or clarification o the Guidelines can be obtained from the Coordinator.

2.0   OBJECTIVE

The objective of the project is to develop a system or prototype, which will enhance students' skills in the process of applying knowledge, solving problems and presenting findings through supervision.

3.0   RESPONSIBILITY

3.1   FYP1 Coordinator Responsibilities

a) Compile students' name list, project titles and their supervisors.

b) Arrange the schedule and classes including organizing FYP1 talk.

c) Collect and record all the proposals at the beginning of the semester and the FYP1 report at the end of the semester and distribute to the respective supervisors.

d) Collect all the evaluation forms at the end of the semester and compile all the marks.

e) Set the deadline for proposal and every chapter (as guideline) and FYP1 report.

f) Distribute the schedule to all the students and lecturers.

3.2   FYP2 Coordinator Responsibilities

a) Coordinate the running and progress of FYP2 for the entire semester

b) Compile the database of student, supervisors, project topics and status of the project

c) Schedule and plan the general milestones for FYP to monitor the progress of student

d) Assign examiners to the project according to certain criteria set

e) Prepare marking scheme for FYP

f) Coordinate and standardize the mark of FYP

g) Schedule the project presentation

3.3   Supervisors Responsibilities

a) Appoint a co-supervisor if the supervisor is away for a long period.

b) Sign the logbook after each meeting with the students.

c) Read the student's proposal, progress report and final report.

d) Establish regular meeting time and identify a timetable for completion of the various elements of research proposal

e) Provide guidance through all the completion of the project.

3.2   Students Responsibilities

a) See supervisor at least once a fortnight (every two weeks) ; failing to comply with this condition will affect grading and student have to repeat course.

b) Supervisors and students must make sure they meet if cannot meet on agreed date (use alternative date).

c) Have a logbook to record their meeting with supervisor.

d) Come prepared before the meeting with the supervisor.

e) Follow the deadline as fixed by Coordinator

f) Submit the proposal, FYP1, FYP2 report to coordinator, NOT to the supervisor.

3.3 Examiners Responsibilities

The FYP2 Coordinator will decide list of examiners. The purposes of the examiners can be summarized as follows:

a) Evaluate the report.
b) Give constructive criticism during the presentation.
c) Fill in the evaluation for and return it to FYP2 Coordinator.

4.0 IMPLEMENTATION

4.1 Project Title

a) Proposed by lecturers or students.
b) Students are advised to select titles related to their program.
c) Head of Program will ensure that all the project titles and scope are adequate with FYP.

4.2 Proposal

a) Approval of supervisor must be obtained by the end of week 3.
b) Proposal with amendments will be approved/confirmed by the end of week 4.
c) Proposal must contains (limit 5 pages)

    i) Project title
    ii) Problem statement
    iii) Objectives
    iv) Methodology
    v) Scope
    vi) Significance of project
    vii) Project schedule
    viii) Expected outcome

4.3 FYP 1

Final Year Project 1 normally will be offered in semester 1. FYP 1 course will be conducted by organizing the seminar series from invited speakers. The topics will cover the requirement for the report contents. The students are required to submit one (1) copy of FYP1 report to the coordinator.

FYP1 should consist of:

> Chapter 1 Introduction
> Chapter 2: Background Study / Literature Review
> Chapter 3 Requirement Analysis & Design

FYP1 report must be submitted by the end of week 14, and one copy of the report should be submitted to the supervisor through coordinator for record purpose.

4.4 FYP 2

FYP 2 should consist of but not limited to the chapter below

> Chapter 1: Introduction
> Chapter 2: Background Study/Literature Review
> Chapter 3: Requirement Analysis and Design
> Chapter 4: Implementation and Testing
> Chapter 5: Conclusion and Future Work

FYP 2 report must be submitted at the end of semester. The final submission is the complete FYP report, with CDs consist of the executable system and the source code. It requires two (2) copies, one for the supervisor and one for the examiner.

5.0 ASSESSMENT METHODS

5.1 Assessment Methods

Since the Final Year Project runs over two semesters then the assessment is divided into two parts. In each part there are few methods of assessment as indicated below:

Part 1
1. Proposal document should be submitted by week 4 of the first semester to the coordinator. 2. Proposal poster presentation (not less than 2 A4 and not more than 4 A4 pages)   a. The assessment will be done by means of exhibition. 3. At the end of the first semester, students are required to submit their interim report (1 copy) that should consist at least the first 3 chapters of their project report that are Introduction, Background Study and Requirement Analysis & Design.
Part 2

1. FYP report
    a. For evaluation, students are required to submit two ring-bound copies of their FYP report.
2. FYP poster presentation
    a. The assessment will be done by means of exhibition and evaluated by some number of lecturers in the faculty.
3. Oral presentation
    a. This is open to the public but your panel of examiners consists of your supervisor and the assigned examiner.
    b. Ideally this will be done in parallel with the poster presentation.

The dates of submissions and venues of the exhibitions will be informed by the FYP coordinator by the week 1 of each semester. Sample of the poster presentations is available at the appendix of this document. Students are normally required to do some modifications to their project after the oral presentation. You will need to do the modifications during the designated period decided by your panel of examiners. Once this is done and satisfied by the panel, you will then need to submit the final hard-bound copies as mentioned in section 6.6.

6.0 WRITING FORMAT

6.1 Language

The report must be written in either English or Bahasa Melayu. The language of the FYP report should be as direct and simple, as the subject matter will allow.

6.2 Typing

6.2.1 Font

Students should use Century Schoolbook (font size 11) or Times New Roman (font size 12) - in preparing their report. Other fonts are not acceptable.

6.2.2 Spacing

The FYP report should be typed on one side of the page. The text should be double-spaced throughout, including explanatory footnotes, long quotations, appendices, headings and subheadings. However legends, captions or keys to tables, figures, or plates should be single-spaced.

6.2.3 Alignment

The whole main text of the report should be typed in full alignment (justified alignment).

6.2.4 Type Quality

Both copies of the FYP report submitted for binding must be printed using a laser printer. The use of transparent tape for error correction is not acceptable.

6.3 Margins

The top and bottom margins of all pages should be at least 3 cm wide. The right and left-hand page margin should be at least 2.5 cm wide.

6.4 Pagination

Pages should be numbered consecutively throughout the report, including pages of figures, tables and appendices. (It is advisable that all tables and figures are placed on separate pages and not together with the text). Pagination begins with the first page of Chapter 1 (or the Introduction). Preliminary pages (i.e. those preceding Chapter 1 must carry page numbers in small roman numerals (i, ii, iii, etc.). The title page should not be numbered.

Page numbers should be centered at the bottom of the page. Page numbers should be at least 10 mm from the margin of the page. Page numbers should appear by themselves and are not to be enclosed in parentheses, hyphens, etc. Each appendix should be identified separately in alphabetical order. The pages of the appendices should also be typed according to the above pagination system.

6.5   Paper

White, good-quality (80g m-2) paper of A4 size should be used for all submitted copies of the thesis. Photographic illustration should be printed on good quality high-resolution paper.

6.6   Binding

Following acceptance and approval by the faculty, the FYP report should be bound in hard cover. The front report cover shall be printed according to the faculty color together with UNIMAS logo and the name of the faculty.

The faculty will do final binding with hardcover. The title of the FYP report, name of the student and the degree for which the FYP report is submitted should be printed on the **front cover** using New-Century Schoolbook following the style shown in **<u>Appendix A</u>**. The student's name, degree and year shall also be printed on the **spine** of the bound FYP report. One stripe according to the faculty color shall be printed on the back cover and spine of the FYP report.

7.0   CONTENTS ARRANGEMENT

All reports should be divided into appropriate sections, chapters or divisions. Candidates should bear in mind that report examiners deplore overlong or verbose report, and the onus is on the candidate to provide a well-organized and well-written report.   The following ordered list of report sections is supposed to serve as a guide. Not all reports will include all sections listed below. Many of these sections are self-explanatory. Further information on some of the sections is provided following the list.

7.1   Title page

The thesis title should be as concise as possible, consistent with giving an accurate description of the thesis. The format of the Title page is shown in Appendix B and should be followed closely.

7.2   Acknowledgement

This is optional, although most reports include a brief statement of thanks in recognition of special assistance and guidance given by individuals, institutions or government bodies.

7.3   Table of contents

The titles of sections, chapters and their principal subdivisions along with the page numbers on which they appear should be listed in the Table of Contents. Titles should be worded exactly as they appear in the text of the report. Reports with many subdivisions should use a hierarchical numbering system for headings and sub-headings (e.g., 3.1). Such a numbering system combined with the judicious use of upper and lower case, indentations and italics should provide a summary of the relationships between the sections of the report.

7.4   Lists of Tables, Figures/Illustrations, Plates/Photographs

These lists consist of the exact titles (including numbering) of all tables, figures and plates that appear in the report. All tables, figures and plates should be numbered consecutively throughout the text.

7.5   List of Abbreviations, Symbols, Specialized Nomenclature

This list is optional, depending on the subject of the report. All scientific symbols and nomenclature should follow the standard SI-system.

7.6   Abstract

An abstract in both Bahasa Melayu and English are required. The English version must include the title written in English for a report written in Bahasa Melayu, and vice versa. The abstract is a summary of the entire report. It should briefly outline the research problems addressed by the report, the findings, and the significance of the work in the context of the field of study. The abstract should not exceed one typewritten single-spaced page of text (c. 300-400 words) with the font size of 11-points. Abstracts in English should be in italic.

7.7   Main text of the report

The main body of the report is usually arranged into consecutively numbered chapters or sections. The structure presented here should be adhered to as far as possible. However, the importance of each chapter (size and content) is likely to vary significantly from project to project, given the variety of projects undertaken.

Therefore, in some cases it may be appropriate to devote several chapters to a particular topic or to add/remove chapters on topics not mentioned below.

The contents of the written report normally should take the following order:

1. Title Page
2. Acknowledgement
3. Table of Contents
4. List of Tables, Figures/ Illustration, Plates/ Photographs

5. List of Abbreviations, Symbols, Nomenclature

6. Abstract

7. Chapters 1 – Chapter …

8. References

9. Appendixes

7.7.1   Chapter 1: Introduction

This chapter is concerned with similar concerns to the abstract and should provide an overview of the report with more detail. The methodology should be stated and describe here as different section. The contribution of the student should be stated precisely and in detail. The structure of the report should be given detailing where each chapter fits within the overall and what each contributes; it may be useful to provide a diagram showing dependencies and relationships between chapters.

Chapter 1 is often the last chapter to be written, and to be checked carefully before submission. It is a key chapter, which the external examiner may read when making his assessment.

7.7.2 Chapter 2: Background Study

This chapter is concerned with presenting the background to the area of investigation and establishing the context of the problem. Often this background consists of a survey and review of literature associated with the problem context. The literature should not simply be represented but **critically analyzed** by the student. The source for the background is published material, in general, journal and conference papers, theses, research monographs, textbooks, web sites and product information.

In research-related reports, the aim is to present a research review of the problem area establishing the state-of-the-art with reference to journal and conference papers and appropriate text books and identify an area of investigation to push

this state further. In more applied reports, the background may focus on techniques and approaches to developing, surveying or analyzing systems or artifacts and this might be based partly on text books; or the focus might be an evaluation of products in an area and this would then be based partly on web and product information sources.

In certain cases there may be reasons to have more than one background chapter as the area of investigation draws from more than one specific area.

All sources used should be precisely cited in the text, i.e. in a way that enables the reader to access the source. If material is copied directly then it should be placed in quotes and the reference given quoted. In general, copying of this type should be avoided. If a diagram is copied then the caption should give the reference.

Chapter 2 should end with a clear **statement of the requirements** of the problem to be investigated and why it is interesting and worthy of investigation related to the background presented.

7.7.3   Chapter 3: Requirement Analysis and Design

This chapter is concerned with establishing the detailed requirements specification for the work.

The nature of these requirements depends on the type of project being investigated. These requirements could be obtained from a number of sources (many of which may have been discussed in detail in the previous chapter):

Interviews;

Market analysis;

A customer (or the supervisor);

Literature sources.

The chapter should indicate the ways in which the requirements have been obtained. Once obtained the requirements should be expressed, prioritized and detailed in an appropriate form. As much as possible the requirements should be measurable and quantified so that it can be determined if they have been met.

The design is concerned with presenting the design of the artifact developed and justifying how it should meet the identified requirements. It is likely to consist of three parts:

1. how and why the design has been carried out – the approach and notation used, etc;
2. the conceptual level design;
3. communication and description of the design.

As appropriate, alternatives considered may be discussed with justification for the approach taken.

The design should be expressed and detailed in a suitable form.

7.7.4   Chapter 4: Implementation and Testing

This chapter focuses on the realization of the design by an implementation. The behavior of the implementation should be described and a justification of why it satisfies the design should be given. The actual implementation **should** be described but not usually in great detail; it is rate that all code will be included. In general, only code that highlights particular approaches or represents interesting developments such as an improved algorithm should be included.

It is often appropriate (and easiest) to provide a walk-through of the system to explain its behavior and relate it to the design. In certain cases a user manual may be presented in the appendix and this can be referred to here.

At each stage, evidence and justification should be produced. This can be obtained from a number of sources; if the aim was to improve performance or accuracy then it is relatively easy to evaluate; in other cases the evaluation may be via a user set, this is often of particular importance in projects what involve user interfaces, web-based activity, etc.

The environment of all tests should be fully specified, i.e. so that the reader could recreate the tests and results given a similar environment. As minimum requirement, Usability and Functional Testing include test plan should be produced here.

Depending on the type of project, it may be necessary to show how the solution produced – usually small and prototypical – would scale up to a real-world system.

7.7.5 Chapter 5: Conclusion & Further Work

This chapter should present conclusions about the investigation and outline further work.

This chapter should not be left until the end of the project period. Valuable ideas should be collected throughout the project and added to a chapter outline.

The chapter should re-outline what has been done in the investigation, and been shown in the report. The lessons learned from the overall investigation should be presented with appropriate examples.

The evaluation together with new ideas should naturally lead to further work that would "improve" the work in some sense. The further work section should be substantial in that this is an important part of a scientific investigation. Often the

depth of further work is a good indication of how well aware the student is of the topic of investigation.

The internal organization of the report is the responsibility of the Candidate in consultation with his/her supervisor(s). The organization will partly depend on the field of study, but the onus is on the student to provide a systematic and well-organized report. Overall, the font of the main text should be 10-points with single-spacing. In addition, candidate should put a header for each page, which is the title of the chapter concerned.

7.8   References

Any report, which makes use of other works, either in direct quotation or by reference, must contain references listing all of these sources. Only works directly cited or quoted in the text should be included in the references.

The references conventions should be as follows:

When an idea is used, it is referred to in the text, for example;

1. …Fred's method of plastering (Fred, 1997) is now recognized as the best …
2. … when it comes to splitting hairs the method proposed by Fred (1997) has many..

If you actually quote from another work then this should be parenthesized and referenced, for example;

1. … in 1997 Fred stated "my method of plotting …", (Fred, 1997)

The references should be single-spaced as with rest of the text, font size of 9-points and should have a 3-5-space indentation for entries exceeding a single line.

7.9 Appendices

This section is optional and will depend on the individual report content. It contains supplementary illustrative material, original data, and quotations too long for inclusion and not immediately essential to an understanding of the subject.

This section may be divided into sections as Appendices A, B, C, etc. Any figures or tables included in the appendix should be numbered and captioned as for all text tables and figures.

7.10   Proofreading

You are required to proof read your report and where possible engage a professional proofreader. It is the responsibility of the students to ensure that the report must be free of spelling and grammatical errors.

8.0   ASSESSMENT AND PRESENTATION

FYP registered students MUST participate in the FYP Exhibition as part of the assessment criteria. The assessment will be done during exhibition visit. 2 groups of examiners as below :

Group 1 : (70%)
2 examiners including supervisor will assessment your project based on your report and prototype presentation during exhibition (Q&A session will be conducted during exhibition visit)

Group 2 (30%)
2 examiners will be assess solely on based on the oral presentation, prototype and Q&A during the exhibition visit
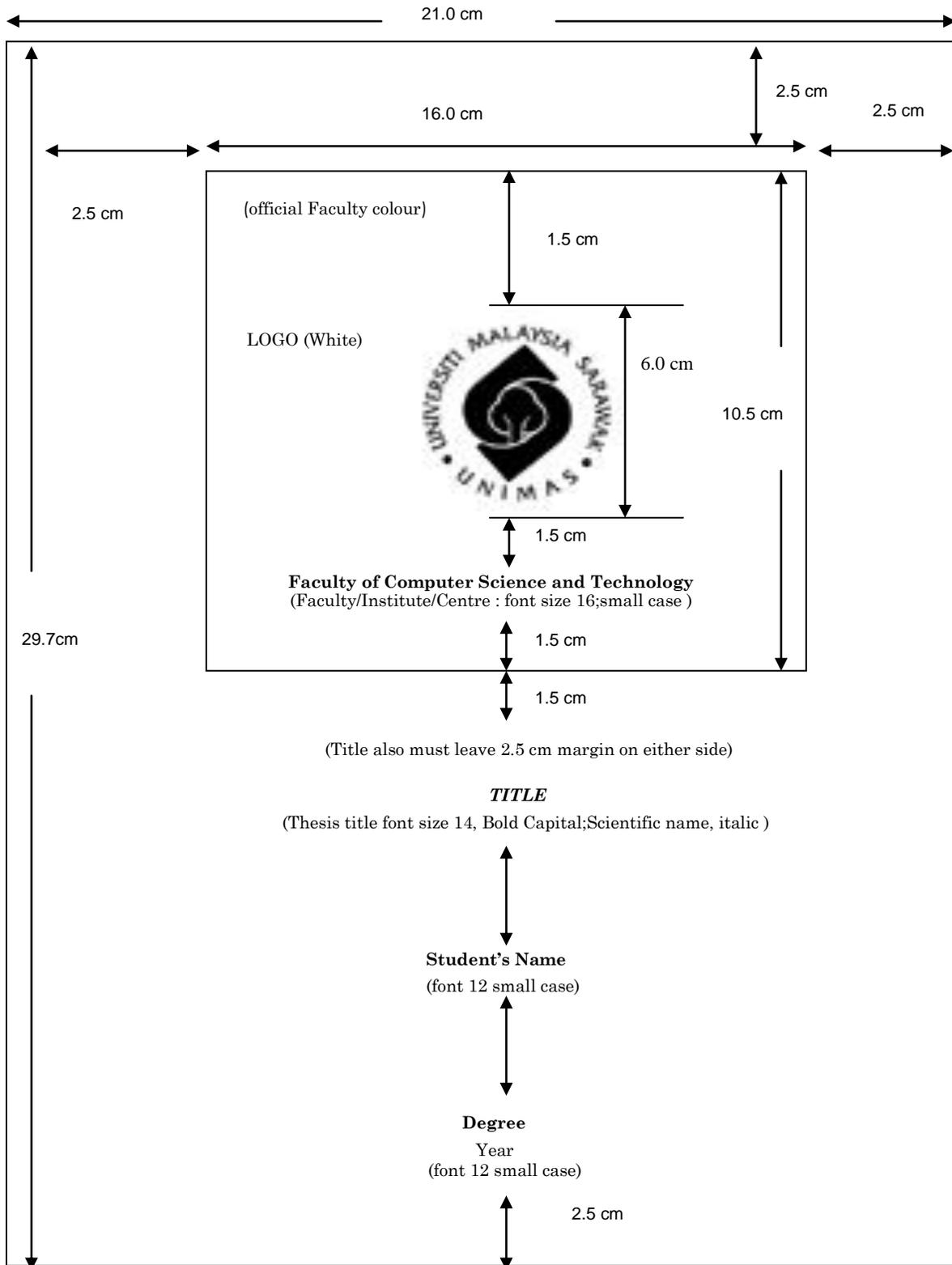
9.0 ADDITIONAL INFORMATION

9.1 Recommended reading material

Candidates are strongly advised to consult reports of students who have successfully completed an undergraduate degree with UNIMAS. These reports are available in the Center for Academic and Information Services (CAIS) or can be obtained from the faculty for references.

10. APPENDICES

APPENDIX A : THESIS COVER

21.0 cm

2.5 cm

2.5 cm

16.0 cm

2.5 cm

(official Faculty colour)

1.5 cm

LOGO (White)

6.0 cm

10.5 cm

1.5 cm

Faculty of Computer Science and Technology
(Faculty/Institute/Centre : font size 16;small case)

1.5 cm

29.7cm

1.5 cm

(Title also must leave 2.5 cm margin on either side)

TITLE
(Thesis title font size 14, Bold Capital;Scientific name, italic)

Student's Name
(font 12 small case)

Degree
Year
(font 12 small case)

2.5 cm

APPENDIX B : TITLE PAGE

TITLE
(Century Schoolbook font size 11, bold and caps lock)

NAME
(Century Schoolbook font size 11, caps lock)

This project is submitted in partial fulfillment of the
requirements for the degree of
Bachelor of Computer Science and Information Technology

Faculty
UNIVERSITI MALAYSIA SARAWAK
Year

APPENDIX C : TITLE PAGE (BAHASA MELAYU)

TAJUK
(Century Schoolbook; saiz fon 11; huruf besar dan hitamkan)
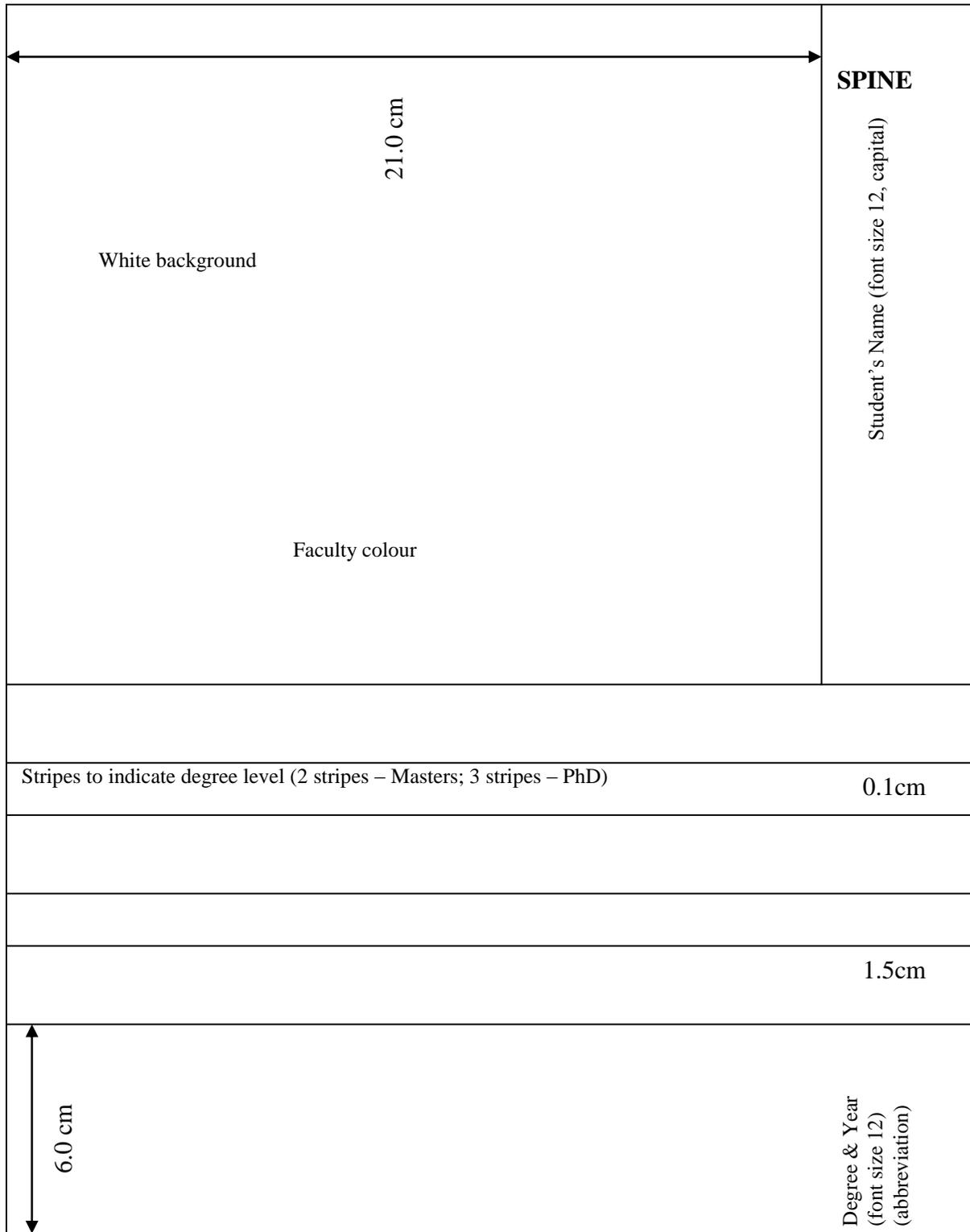
NAMA
(Century Schoolbook saiz fon 11, huruf besar)

Projek ini merupakan salah satu keperluan untuk
Ijazah Sarjana Muda Sains Komputer dan Teknologi Maklumat

Fakulti Sains Komputer dan Teknologi Maklumat
UNIVERSITI MALAYSIA SARAWAK
2006

APPENDIX D : BACK AND SPINE

	SPINE
21.0 cm White background Faculty colour	Student's Name (font size 12, capital)

Stripes to indicate degree level (2 stripes – Masters; 3 stripes – PhD) 0.1cm

1.5cm

6.0 cm   Degree & Year (font size 12) (abbreviation)

APPENDIX E

Sample of a reference list using author and year system

Ahmad Zaki Abu Bakar (1989). *Pemprosesan Teks Bahasa Melayu Untuk Pemahaman Komputer*. Universiti Teknologi Malaysia: Tesis Doktor Falsafah.

American Chemical Society ed. (1978). *Handbook for Authors of American Chemical Society Publications.* Washington, D. C.: American Chemical Society.

Billings. S. A. (1980). Identification of Nonlinear Systems: A survey. *Proc. Instn Electr. Engrs*, *Part D.* 127(6): 272-284.

Engineers Joint Council (1969). *Thesaurus of Engineering and Scientific Terms*. New York: Engineers Joint Council.

Martin, A. M. ed. (1991). *Peat as an Agent in Biological Degradation of Waste*. London: Elsevier. 314–362.

Puget, J. F. and Albert, P. (1994a). *SOLVER: Constraints – Objects Descriptions*. Technical Report. ILOG S. A.

Puget, J. F. and Albert, P. (1994b). *A C++ Implementation of CLP*. Technical Report. ILOG S. A.

Sheta, A. F. and De Jong, K.(1996). Parameter Estimation of Nonlinear Systems in Noisy Environments Using Genetic Algorithms. *Proceedings of the 1966 IEEE International Symposium on Intelligent Control*. September 15-18. Dearborn, Michigan: IEEE, 360-365.

Sukiman Sarmani (1987). Pencemaran Radioaktif. Dlm. Ahmad Badri Mohamad. *Perspektif Persekitaran*. Petaling Jaya: Fajar Bakti. 71-87.

Theusen, G. J. and Fabrycky, W. J. (1984). *Engineering Economy*. 6th edition. Englewood Cliffs, N. J.: Prentice-Hall.

Veres, S. M. (1990). *Structure Selection of Stochastic Dynamic Systems*. New York: Gordon and Breach Science Publishers.

Note: Arranged alphabetically according to author's name.

APPENDIX F

Sample of a reference list using number system

1. Theusen, G. J. and Fabrycky, W. J. *Engineering Economy*. 6th edition. Englewood Cliffs, N. J.: Prentice-Hall. 1984.

2. Sukiman Sarmani. Pencemaran Radioaktif. Dlm.: Ahmad Badri Mohamad. *Perspektif Persekitaran*. Petaling Jaya: Fajar Bakti. 71–87; 1987

3. Billings. S. A. Identification of Nonlinear Systems: A Survey. *Proc. Instn Electr. Engrs*, *Part D*, 1980, 127(6): 272-284.

4. Sheta, A. F. and De Jong, K. Parameter Estimation of Nonlinear Systems in Noisy Environments Using Genetic Algorithms. *Proceedings of the 1966 IEEE International Symposium on Intelligent Control*. September 15-18, 1996. Dearborn, Michigan: IEEE, 1996. 360-365.

5. Ahmad Zaki Abu Bakar. *Pemprosesan Teks Bahasa Melayu Untuk Pemahaman Komputer*. Tesis Doktor Falsafah. Universiti Teknologi Malaysia; 1989

6. British Standards Institution. *Tongued and Grooved Software Flooring*. London, BS 1297. 1987

7. Lindgren, E. A. *Screen Room Air Inlet and Wave Guard*. U.S. Patent 2, 925, 457. 1960.

8. Howick Partitioning Ltd. *Howick: Partitioning in Business*. Redhill (U.K.): Trade brochure. 1984.

9. Sheta, A. F. and De Jong, K. Parameter Estimation of Nonlinear Systems in Noisy Environments Using Genetic Algorithms. *Proceedings of the 1966 IEEE International Symposium on Intelligent Control*. September 15-18. Dearborn, Michigan: IEEE. 1996. 360-365.

Note: Arranged in the order in which the references were cited in the thesis

11.0 REFERENCES

A Manual of Style. (1982) 13th Ed. Chicago: University of Chicago Press.

Allen, G.R. (1976). *The Graduate Students' Guide to Thesis and Dissertations*: A practical Manual for Writing and Research.   San Francisco: Jossey-Bass.

American Chemical Society.   (1978) *Handbook for Authors*.   Washington, D.C.: American Chemical Society Publications.

British Standards Institution (1972). *Recommendations for the Presentation of Thesis*. London: British Standards Institution.

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Conference of Biological Editors, Committee on Style and Form. (1978) CBE *Style Manual*. Washington, D.C.: American Institute of Biological Sciences.

Davis, A.J., and A.M. Jacobs. (1977) Tabular presentation. In *International Encyclopedia* of *the Social Sciences*. New York: Free Press.

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Strunk, W., Jr., & White, E.B. (1979) *Elements of Style*. 3rd Ed. New York: Macmillan.

Swales, J. (1971) *Writing Scientific English*: A Textbook of English as a Foreign Language for Students of Physical and Engineering Sciences. London: Nelson.

Swanson, E. (1979) Ed. *Mathematics into Type*. Cambridge MA.: M.I.T. Press.

Turabian, K.L. (1982). A Manual for *Writers of Term Papers, Thesis, and Dissertations*. London: Longman.

Zainal Abidin Bakar (1983). *Teknik Menulis Tesis*. Kuala Lumpur: *Eastview* Production.

Hilts, P. J. (1999, February 16). In forecasting their emotions, most people flunk out. New York Times. Retrieved November 21, 2000, from http://www.nytimes.com

GVU's 8th WWW user survey. (n.d.). Retrieved August 8, 2000, from http://www.cc.gatech.edu/gvu/user_surveys/survey-1997-10/