



**MSU-ILIGAN INSTITUTE OF TECHNOLOGY**  
**Andres Bonifacio Avenue, Tibanga**  
**9200 Iligan City, Philippines**

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# **SCHOOL OF GRADUATE STUDIES**

## **RESEARCH GUIDE**



**A.Y. 2008-2009**

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## PREFACE

Completing the manuscript for a special project, thesis or dissertation marks the culmination of a degree. Preparation of the manuscript, however, not only entails familiarization with the various steps involved from research planning and organization up to submission of hard-bound copies, but also demands a thorough understanding of writing style and format. For these reasons, this Research Guide is compiled.

In the absence of a clear-cut writing standard applicable to all fields of specialization, many research advisers and students are content with accepting any style, on the precept that it is used consistently throughout the manuscript. In effect, style from one manuscript to another varies, even within the same School – a reality that can be seen from many of the outputs in the School of Graduate Studies, particularly those prior to the 1<sup>st</sup> release of this Guide in 2003.

Consistency in style is a major element in writing. For this reason, this Guide is presented to assist students and advisers in the preparation, writing and production of a special project, thesis or dissertation as a requirement for a degree. Although this is intended for students taking up graduate courses, the same may be used by students in any academic level who are writing their research output.

This Guide serves as a reference in writing but does not, in any way, guarantee final acceptability of the manuscript. The student's Oral Examination Panel, with due consideration of technical and professional competency, remains the final arbiter.

We are thankful to the Graduate Program Coordinators, particularly those who had spearheaded this guide in 2003 under Dr. Brigida A. Roscom, then Dean, and Prof. Anita P. Rivera, then School Secretary. Likewise, we are thankful to the Graduate Coordinators who have unselfishly shared their experiences, insights and concerns, through series of committee meetings, in order to come up with the policies that are now an integral part of this Guide.

We are also thankful to the MSU-IIT administration under Chancellor Marcello P. Salazar and Vice Chancellor for Academic Affairs Arnulfo P. Supe for their full support particularly in the publication of this Guide.



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Jerson N. Orejudos, Ph.D.  
Dean, School of Graduate Studies

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**Part One:**  
**PROCEDURE AND GUIDELINES FOR**  
**SPECIAL PROJECT / THESIS / DISSERTATION PREPARATION**

**A. Academic Requirements**

A student in research preparation must have been admitted to candidacy for a degree. Early at this stage, a student can defend a research proposal. Once it is approved by the members of the advisory panel, formal work on the research, as proposed, can be started. However, enrolment to a thesis or dissertation course requires completing all academic requirements, and satisfying the required Grade-Point Average (GPA) of 2.0 or better for a masteral course and 1.75 or better for a doctoral program. Some programs may require passing the comprehensive examination prior to, or concurrent with, enrolment of the thesis/dissertation course.

1. To be admitted to candidacy for a masteral program, a student must have earned twelve (12) in the program with a GPA of 2.0 or better. For doctoral programs, the student must have earned at least 1/3 of the unit requirement with a GPA of 1.75 or better. In the event that the required GPA is not attained, the student has to enroll in additional courses, as may be determined by the Program Coordinator, until such time that the required GPA is satisfied, subject to Maximum Residency Rule (MRR).
2. The comprehensive examination, if the program so requires, shall aim to test the student's ability to integrate and apply the knowledge acquired in the program of study. The areas/subjects covered shall be prescribed by the program.

**B. Advisory Panel**

1. With the approval of the Dean of the School of Graduate Studies, the Program Coordinator, who may consider the student's preference, appoints the members of the Advisory Panel which comprises (a) the student's thesis/dissertation adviser; and (b) at least two other members for masteral programs; or at least three other members for doctoral programs, one of whom is an off-campus member.

An off-campus member is one who is not an employee of MSU-IIT. He/She may be a faculty member of any reputable academic institution, e.g., UP, DLSU, ADMU, MSU-Marawi and its external campuses other than MSU-IIT, etc. He/She may likewise be an expert who is working in non-academic institutions, e.g., industries, companies, and the like.

SGS FORM 1: NOMINATION OF MEMBERS OF ADVISORY PANEL must be filled out and submitted for this purpose.

2. The Thesis/Dissertation adviser shall be the chairperson of the Advisory Panel. The adviser must have written a masteral thesis and/or doctoral dissertation. A holder of a non-thesis masteral or doctoral degree cannot be a thesis or dissertation adviser, respectively. The adviser should be a faculty member of MSU-IIT.

In the case when an off-campus adviser is chosen, a co-adviser working in MSU-IIT must be appointed. If the adviser is unable to enter the grade of the student at the end of the semester, the co-adviser, through consultation with the adviser, may be authorized to do so. The co-adviser receives the same honorarium as the adviser.

3. All other members of the advisory panel, except the off-campus examiner/adviser, must be members of the Graduate School Faculty of MSU-IIT.
4. The composition of the advisory panel may be changed when there is a strong reason necessitating the change, such as change of research topic; disability or prolonged leave of absence by any member of the panel; a strained working relationship between panel members, or between the adviser and the student; and the like, and only upon approval by the Program Coordinator and the Dean of the School of Graduate Studies.

SGS FORM 2: REQUEST FOR CHANGE OF ADVISER / PANEL MEMBER must be filled out and submitted for this purpose.



5. The Advisory Panel may eventually, but not necessarily, become the Oral Examination Panel; although, it is highly recommended that for purposes of continuity, members of the Advisory Panel will eventually be the same members in the Oral Examination Panel.

### **C. Proposal**

1. A Thesis/Dissertation proposal is submitted by the student to the members of the Advisory Panel for a proposal hearing. This may be done as soon as the student is admitted to candidacy for the program. A notice of proposal hearing is posted for public information.
2. SGS FORM 3: APPROVAL FOR PROPOSAL HEARING must be filled out by the student and submitted for this purpose.
3. The Advisory Panel makes written comments, suggestions, and approves the proposal using SGS FORM 4: APPROVAL OF PROPOSAL.

Note: A student, doing a special project, need not fill out any form associated with the proposal defense, nor pay any proposal defense fee. The proposal defense may be arranged and conducted at the department level.

### **D. Special Project/Thesis/Dissertation Work**

1. Once the Special Project/Thesis/Dissertation proposal is approved by the advisory panel, the student can start formal work on the research as proposed.
2. Final defense of the work can only be made when the research course is enrolled. This requires completing all academic requirements with a GPA of 1.75 for doctoral program and 2.0 for masteral program, including passing the comprehensive exam, if the program so requires.
3. The student registers for the Special Project/Thesis/Dissertation course during the regular registration period for

each semester while preparation is in progress, and particularly in the semester in which the oral examination for the research is to be conducted and in which the student is expected to graduate. This enrolment entitles the student at least eighteen hours of tutorial sessions with the adviser. The student assumes the responsibility of arranging the sessions with the adviser.

4. When the research is not completed after the semester of formal registration, the course must be continually enrolled until it is completed, defended and approved. This continuous registration rule is required whether or not the student is enrolled in other courses; provided further that the maximum residency rule is not violated.
5. Special Project/Thesis/Dissertation that is not finished within the semester enrolled in must be reported as IP (In Progress) in the grading sheet of the student.

#### **E. Acceptance for Defense**

1. The Oral Examination Panel is created when the formal work on the thesis as proposed is completed. It may or may not be composed of the original members of the Advisory Panel. In the case of oral examination on a dissertation, at least one off-campus examiner (a graduate faculty outside the MSU-IIT campus, or an expert in the field of specialization from a non-academic institution) shall be included as additional member of the examination panel. This brings to a total of four members, adviser included, in the oral examination panel for a doctoral program.
2. The Special Project/Thesis/Dissertation adviser shall be the Chairperson of the Oral Examination Panel. Except in defense of special projects, the chairperson is a non-voting member.
3. Should an off-campus examiner be included in the Oral Examination Panel, as in the case of an oral defense of a dissertation, the Program Coordinator shall obtain the approval of the Dean of the School of Graduate Studies. If the nominated examiner is accepted, the adviser shall write a letter

of invitation to the examiner. The letter should be noted by the Dean. The off-campus examiner shall receive the regular honorarium for members in the panel, as approved by BOR.

4. SGS FORM 5: NOMINATION OF MEMBERS OF ORAL EXAMINATION PANEL and SGS FORM 6: APPROVAL FOR FINAL DEFENSE are filled out and submitted to SGS together with a copy of the draft of the special project/thesis/dissertation at least one week before the expected date of oral examination. Each member of the examination panel is also provided a copy of the draft at least one week before the oral examination.
5. Members of the Oral Examination Panel or the Program Coordinator may give written comments before a Special Project/Thesis/Dissertation defense may be scheduled.
6. The research must show evidence of the student's capacity for sound research. It is expected to be in good scholarly style and must be a distinct contribution to knowledge. It must show the author's ability to carry out a study and to organize results expressed in good literary style.
7. Following general acceptance of the format, style and readiness of the research, the oral examination is scheduled. A notice of the oral examination, together with an extensive/expanded abstract of the study, preferably in 30" × 40" tarpaulin, are posted for public scrutiny and information. This must be done at least one week prior to the oral examination date. The date, time and place of the oral examination must be clearly stated on a separate notice posted alongside the tarpaulin. Postings are placed preferably at the lobby of the College in which the program is offered.

#### **F. Oral Examination of a Special Project/Thesis/Dissertation**

1. The student must be registered in the semester when the final defense of the Special Project/Thesis/Dissertation is conducted. An oral examination fee must be paid at the Cashier's Office (Refer to the current fee scheme of the School of Graduate Studies).

2. The oral examination on the completed research is open to the public and shall be conducted by the Oral Examination Panel.
3. At the end of the oral examination, the examiners shall submit a rating on the student's performance using SGS FORM 7: ORAL EXAMINATION REPORT and SGS FORM 8: PANEL ORAL EXAMINATION REPORT to the School of Graduate Studies.
4. The Dean of the School of Graduate Studies shall notify the student of the rating received in the oral examination, together with the revisions, if any.
5. A student will be disqualified from the program in case of a failure at a second try in the oral examination. However, the student may be awarded a certificate of completion of academic units.
6. Special Project / Thesis / Dissertation shall be rated qualitatively, i.e., IP (In-Progress), P (Passed) or F (Failed) in the report of grades.

#### **G. Approval for Binding**

1. The student incorporates the required revisions and submits the revised copy to the members of the Oral Examination Panel for approval.
2. SGS FORM 9: APPROVAL FOR BINDING must be accomplished before the student can reproduce copies of the manuscript for binding. This is done after the School of Graduate Studies, through the Assistant Dean, has examined the manuscript with respect to style and format.
3. No other pages may be added to the manuscript after it has been approved and returned to the student for reproduction and binding.

#### **H. Submission of Bound and Electronic Copies**

1. Six (6) to eight (8) bound copies of the approved manuscript

plus three (3) hard copies of the abstract (300 to 500 words), and a CD containing the electronic files of the manuscript and the abstract shall be submitted to the School of Graduate Studies twenty (20) days before graduation day. These items must be submitted before the adviser enters the grade of P (Passing) for the research course.

2. The School of Graduate Studies shall distribute the bound copies to the following persons/institutions/units: (1) the original copy to the MSU-IIT main library, a copy each for the (2) School of Graduate Studies, (3) the Major Department, (4) the National Library, (5) the Adviser, (6) student, (7) the Scholarship Granting Agency, if the student is a scholar, and (8) the Sending Institution, if the student is connected to an entity that supported his/her study.
3. Bound copies of the approved manuscript shall be submitted to the School of Graduate Studies not more than one year from the date of approval of the manuscript. Otherwise, a re-examination on the research shall be required, subject to the conditions on Maximum Residency Rule.

## **I. Deadline**

Progress report for a special project/thesis/dissertation must be submitted any time during the semester without jeopardy to any deadline set by the School of Graduate Studies. Deadlines for oral defenses, including final submission of bound copies, must be observed.

**Part Two:**  
**GUIDELINES FOR THE ORGANIZATION AND FORMAT OF A  
SPECIAL PROJECT / THESIS / DISSERTATION**

**A. Organization of Materials**

The manuscript is arranged in the following sequence:

**1. Front Matters**

<b>Preliminary Pages</b>	<b>Required</b>	<b>Optional</b>	<b>Page Number</b>
Title page	*		Page i, but number does not appear
Certificate of Panel Approval (Black-bordered form)	*		Page ii, but number does not appear
Abstract	*		Begin numbering with iii
Dedication		*	Continue numbering
Acknowledgement		*	Continue numbering
Table of Contents	*		Continue numbering
List of Tables		*	Continue numbering
List of Figures		*	Continue numbering
List of Appendices		*	Continue numbering
List of Illustrations		*	Continue numbering
List of Symbols		*	Continue numbering
List of Abbreviations		*	Continue numbering
Preface or Introduction		*	Continue numbering

**2. Text**

The text is divided into chapters and sections. The first chapter begins with page number 1, in Arabic numerals, but unmarked. Except for the first page of each chapter which is not printed, all other pages are printed on the upper right-hand corner of the page (refer to margin settings under technical specifications). Each chapter must begin on a new page.

### 3. Back Matters

Pages	Required	Optional	Page Number
Bibliography	*		Continue numbering in Arabic numerals following the text
Appendix/Appendices		*	Continue numbering
Vita	*		Continue numbering
Certificate of Authentic Authorship	*		Continue numbering

## B. Detailed Description of Each Section of the Manuscript

### 1. Front Matters

#### a) Title Page

- This page contains five blocks of words, as follows: (1) the research title, (2) classification of research whether a special project, thesis or dissertation (uppercased), (3) Graduate Faculty of Program, Institute, City (4) Program of Study (Degree) and (5) Author and Date (Month and Year) of Publication (See SAMPLE FORM 2: TITLE PAGE).
- Block (2) is separated from block (3) by a single space. The remaining blocks are balanced within the page, with block (1) on the top line/s, and block (5) on the last two lines.
- The title page is counted as page i (lower-cased Roman numeral), but unmarked. Pagination is reflected in the Table of Contents.
- The research title should be in uppercase and centered. It should be presented in descriptive words that will ensure electronic retrieval.
- If possible, use word substitute for formulae, symbols and subscripts/superscripts.
- The final line of the title page is the month and year in which the Special Project/Thesis/Dissertation is submitted.

#### **b) Certificate of Panel Approval**

- This form, also called the “black-bordered form”, contains the SGS dry seal and printed on a laser/ink-jet printer. This must be secured from the Office of the School of Graduate Studies. For output in Filipino, the Filipino version is used. (See SAMPLE FORM 3a - CERTIFICATE OF PANEL APPROVAL or 3b - SERTIPIKO NG PAGPAPATIBAY NG PANEL)
- The purpose of the certificate of panel approval is to enable the student’s adviser, the members of the Oral Examination Panel, the Dean of the College/School and the Dean of the School of Graduate Studies to indicate that the work satisfies the requirements of the degree.
- Signatures of all members of the Oral Examination Panel, the Program Coordinator, the Dean of the College/School and the Dean of the School of Graduate Studies are affixed. Date for affixing the signatures are likewise indicated.
- The signatures should be originals and rendered in black ink.
- This is Roman page number ii, but unmarked. Pagination is reflected in the Table of Contents.

#### **c) Abstract**

- The heading for this page is **ABSTRACT** in uppercase and bold attributes, centered without punctuation. (See SAMPLE FORM 4: ABSTRACT)
- The body of the abstract, printed in double or one-and-one-half spaces, begins on the fourth line below the heading
- An abstract is a general overview of the research. It is a summary of the study; a statement of the experiment or problem, the procedure followed, the results and the conclusions.
- It should be a succinct account that allows readers to make an accurate decision as to whether the full contents will be beneficial to him/her.
- The maximum length for a dissertation abstract is 350 words. For a thesis/special project, it is 200 words.
- Pertinent places, full names of people and other proper nouns useful in electronic retrieval must be included.
- Diagrams, charts and tables, or other illustrated materials and formulae or equations are not included in the abstract.



- Symbols, as well as foreign words and phrases, must be clearly and accurately displayed.
- Transliterations for characters other than Roman and Greek letters and Arabic numerals as well as accents and diacritical marks are included.
- Use present form in all sentence construction, if possible.

**d) Dedication**

- The heading of a one-paged DEDICATION need not appear on the dedication page, and the text may be centered.
- This contains names of special people, e.g., family and friends, who are close to the author and who have inspired him/her to completing the work (See SAMPLE FORM 5: DEDICATION)

**e) Acknowledgement**

- The word **ACKNOWLEDGEMENT** in uppercase and bold attribute should be centered. (See SAMPLE FORM 6: ACKNOWLEDGEMENT)
- This page expresses the student's recognition of, and appreciation for, any special assistance made by individuals or institutions that are not mentioned in the manuscript but have made an important contribution to the study.

**f) Table of Contents**

- The heading for this page is **TABLE OF CONTENTS** in uppercase and bold attribute, centered without punctuation. (See SAMPLE FORM 7: TABLE OF CONTENTS)
- The titles of chapters or sections must be listed and worded exactly as they appear in the manuscript.
- Titles for the preliminary pages and for all chapters, except sub-chapters, are in uppercase.
- The page number for the starting page of each part is listed flush at the right margin.
- Any space between the last word of the title and the page number can be filled with a dot leader.

**g) List of Tables / Figures / Appendices / Illustrations / Symbols/ Abbreviations**

- The headings for these pages are in uppercase and bold attributes, centered without punctuation. (See SAMPLE FORMS 8 -10)

- All tables and figures are arranged in increasing Arabic numeral.
- Appendices, symbols and abbreviations are arranged alphabetically.
- Greek-lettered symbols are placed before Roman/English-lettered symbols
- Each acronym / symbol is indented and separated from the definition by a dash.
- Consistency in the inclusion of tables and figures must be observed; if tables from one chapter are included in the list, then tables from all the other chapters and the appendix must be included.
- Each entry must list the same caption or title used for a table/figure.
- The most common mode of presentation is to single-space within each entry and to double-space between entries.

## **2. Text**

- Although the detailed organization of the text may vary among academic disciplines, the formatting of the text must be followed consistently throughout.
- All headings and sub-headings should be presented in the same way in each chapter or major section, in terms of capitalization, placement on the page, and kind of typeface used.
- No headers or footers giving the titles of chapters, other sections, or the thesis are allowed

### **a) Body of the Manuscript**

- The manuscript is organized into logical chapters and sections as may be shown below:

CHAPTER 1	INTRODUCTION
	1.1 Background of the Study
	1.2 Statement of the Problem
	1.3 Significance of the Study
CHAPTER 2	REVIEW OF RELATED LITERATURE
CHAPTER 3	RESEARCH DESIGN AND METHODOLOGY
CHAPTER 4	RESULTS AND DISCUSSIONS
CHAPTER 5	CONCLUSIONS AND RECOMMENDATIONS

- Numbering for each chapter is in Arabic numeral.
- The above chapters are just recommendatory. Chapters and sections other than those stated above may be added.

**b) Chapters and Sections**

- The heading for each chapter should be centered on the first line of the page without punctuation and printed 1.8” below the top of the page. On the third line is the title of the chapter. (See SAMPLE FORM 11: CHAPTERS, TABLES, FIGURES, PAGINATION)
- The section title starts on the fourth line below the title of the Chapter.
- The section heading is flush to the left margin.
- The first page of each chapter is counted, but unmarked. All other pages are marked at the upper right hand margin, 1.25” below the top page, using Arabic numerals.
- All major chapters must begin on a new page; sections/sub-sections need not.
- Whenever the heading of a section or subsection appears near the bottom of a page, it must be followed by at least one line of text, or the heading should be forced to the top of the next page.
- Entries between sections/sub-sections are separated by a double space.

**c) Tables and Figures**

- Table designates tabulated numerical data used in the body of the manuscript and in the appendices. Figure designates all other non-verbal materials such as illustrations, charts, graphs, maps, photographs, drawings, diagrams, and the like. (See SAMPLE FORM 11)

- All tables and figures should be located right after the text that is referring to it and, if possible, should be located such that they do not run over into the next page. If this happens, subsequent pages of the illustration must include at least the illustration number and the notation that it is continued, e.g., Table 1, contd.
- Illustrations may be presented horizontally or vertically. In either case, illustrations must fit within the required margins, and page numbers must be placed consistently throughout the entire manuscript.
- Table captions are typed with one blank line above the table and figure captions are typed with a blank line below the figure. If an illustration is rotated, the coordinating caption must also be rotated.
- For tables and figures copied from other sources, the caption of such should include the source.
- The captions for tables and figures must be identical with those used in the LIST OF TABLES and the LIST OF FIGURES in the preliminary pages.
- Illustrations must be numbered consecutively throughout the entire manuscript. A straight sequence (1, 2, 3, 4, etc.) or a decimal approach (1.1 , 1.2 , 1.3...2.1, 2.2, 2.3,... , etc.) where the first digit is the chapter number, and the digit after the decimal point is the illustration number, may be used.
- Photographs, as a figure, must be scanned and converted to an electronic format for simultaneous printing with the page.
- Oversized illustrations should be reduced; however, legibility must be maintained. If this is not possible, a folded, oversized page may be included, which may be accordion-folded, so that it may be bound with the rest of the document. In this case, the page number must appear in a manner consistent with the rest of the document.
- Alternatively, the oversized illustration may be folded and inserted in a manila envelope no larger than 6.5" by 9.5", which then may be mounted on a sheet of white thesis paper. Each page enclosed in the envelope must be included in the pagination of the thesis.
- Below is a sample of a table and a figure; note that the left and right border lines of the table is centered between the left and right margins.

Table 1.1. This is the title of the first table in Chapter 1. If the title is long such that it runs down the next line, the first word of the next line must be flush with that of the previous line as shown by this example.

	Column 1	Column 2	Column 3	Column 4
Row 1				
Row 2				

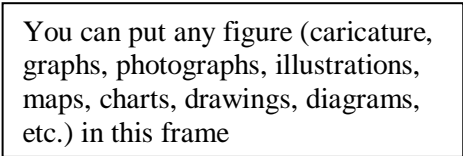


Figure 1.1. This is the title of the first figure of Chapter 1.

### 3. Back Matters

#### a) Bibliography

- Special Projects/Theses/Dissertations must have a bibliography or list of references, and the documentation style should be appropriate to the discipline of study.
- This must be in the same font type and point size as the rest of the manuscript.
- Note that in some science and engineering disciplines, the references may be given at the end of each chapter instead of at the end of the manuscript. In this case, the headings LIST OF REFERENCES would be acceptable but **not** BIBLIOGRAPHY, which is a term used for the summary of source materials at the end of the manuscript.
- Entries are listed alphabetically by the author’s last name or by the title of the article/book if there is no author or editor given.
- The first line of each entry starts at the margin; the second and third lines are indented five spaces (one tab). (Format > Paragraph > Hanging indentation in Microsoft Word)
- Single-space each entry and leave a single space between entries.
- Use the latest publishing date for the book or encyclopedia and the complete date for newspapers, magazines or the

Internet.

- See SAMPLE FORM 12: BIBLIOGRAPHY which illustrates the correct setup including appropriate punctuation and underlining.

**b) Appendix or Appendices**

- The appendix provides a place for a supplementary material that is not necessary for inclusion in any of the chapters. Tables that are too detailed for the text presentation, figures, technical notes, raw data, computer programs, musical scores, sample questionnaires, schedules, case studies are common appendix materials. (See SAMPLE FORM 13: APPENDIX)
- Appendices, presented in alphabetical order (A , B , C , D , ...), and may be single-spaced, appear at the end of the manuscript only; they do not appear at the end of each chapter.
- The font type and point size for the main heading, sub-headings, and illustration captions of an appendix must match that of the text, but the font type and point size of the materials in the body of the appendix may be different.
- Appendix material may also be included in compact disc form, with each compact disc labeled as follows:

Your name

Special Project/Thesis/Dissertation Title

Degree, Department

University Name, and Year of Graduation

Appendix Letter and Appendix Name

Example:

Chita P. Evardone, Ph.D.

Shadowability of Statistical Averages at Blowout Bifurcation

Ph.D. in Mathematics, Department of Mathematics

MSU-Iligan Institute of Technology, 2002

Appendix A: A Fortran Program for the Frequency  
Distribution

- The existence of a CD-ROM appendix must be indicated with a corresponding paper appendix page.

**c) Vita**

- This is a professional biography of the author that may include place and date of birth, educational institutions attended (after high school), degrees and honors awarded, titles of publications, and teaching and professional experiences.
- It should be short, concise, written in the third person and in the same font type and point size as the rest of the manuscript.
- It must be double-spaced.

**d) Certificate of Authentic Authorship**

- To ensure authentic authorship and to safeguard against plagiarism, a certificate of authentic authorship is required in the manuscript.
- This is centered vertically within the page.
- This is also in preparation for copyrighting in the future. (See SAMPLE FORM 1: CERTIFICATE OF AUTHENTIC AUTHORSHIP)

**C. Technical Specifications**

**1. Paper Size and Quality**

- 8 ½" × 11" short-sized (letter), white, substance-20 book papers must be used.
- Manuscripts printed on better quality paper will look more professional and will archive better.

**2. Paper Layout**

- Paper must be printed in portrait mode. Landscape mode is not allowed except for purposes of accommodating unusually large tables, illustrations and the like.

**3. Margins**

- To provide allowance for trimmings during binding and later ease in microfilming and copying, every page of the manuscript must meet these minimum margin standards:

Top margin: 1.8" (note: pagination is at header  
1.25" from top of page)

Bottom margin: 1.25"

Right margin: 1.25"

Left margin: 1.75" (binding edge)

- All manuscript materials must fit within these margin requirements (including tables, figures and graphs)

#### **4. Fonts and Font Size**

- Any legible font, except script, italic or ornamental, is acceptable for the body of the text.
- A 12-point font size is recommended for Times New Roman; if Arial, Helvetica, or Century Gothic fonts are used, the manuscript must be 11- or 12-point font.
- A consistent font and size must be observed throughout the manuscript.
- Italics may be used for quotations and words in a foreign language.

#### **5. Spacing**

- The manuscript, including the abstract, acknowledgement, vita, must be double-spaced or one-and-one-half-spaced. This should be used consistently throughout the manuscript.
- Footnotes, endnotes, bibliographic entries, long quotations, items in lists, table of contents, and appendices may be single-spaced, i.e., if that style is recommended by the discipline.

#### **6. Pagination**

- Each page of the entire manuscript must be numbered except for the title page, and the black-bordered certificate of panel approval page.
- Preliminary pages are numbered consecutively in lower-cased Roman numerals; the first page to be numbered is the Abstract page which is marked iii.
- The text and back matters are numbered consecutively in Arabic numerals, beginning with 1 (unmarked) on the first page of the text.
- Page numbers must appear in the same location (upper right hand corner 1.25" below the top edge and 1.25" from the right edge) on each page except on the first page of each Chapter where the page is counted but unmarked.
- Page numbers must be consistent with the text in font size and style.



## **7. Footnotes**

- If footnotes are used, they are placed on the pages they annotate and should be separated from the text by a line extending two inches from the left margin.
- If the discipline requires footnotes within a chapter, then the footnotes are to be indicated by a superscript and numbered consecutively using Arabic numerals.
- The first line on the footnote is to be indented.
- If the footnote is more than one line length, typing is to be single-spaced.
- When more than one footnote is used on a page, footnotes should be separated by a single space.
- The specified margins and font must be maintained when footnotes are used.

## **8. Text Citations of References**

- Citation practices differ among disciplines. Students should follow the practice most commonly used in their discipline.
- References may be cited by giving the last name(s) of the author(s) and the year of publication of the reference.

Example ..... was discovered (Longuet and Fox, 1977)

## **9. Equations**

- Equations must be numbered consecutively from (1.1), (1.2),..., (2.1), (2.2),..., etc., up to the end of the paper, including any appendices. The equation number is used when referring to equations. The first number refers to the chapter; the second number refers to the nth occurrence of the equation within the chapter.

Example:

$$D_{(uv)w} = \alpha_u d_{w,v} + \alpha_v d_{w,u} + \beta d_{u,v} + \tau \text{ABS}(d_{w,u} - d_{w,v}) \quad (3.1)$$

## **10. Corrections and Errata**

- No correction in the form of correction tape or fluid, erasures, crash-out, and the like must be made on the final copy.

## **11. Printing**

- All print should be letter quality with dark black characters that are consistently clear and dense.
- Dot matrix printing is not acceptable.

- Ink jet, laser jet or a similarly high-quality printer should be used.

## **12. Binding and Labeling**

- The manuscript is bound using a hard cover, wrapped in transparent plastic, in black for dissertation, maroon for thesis, and green for special project.
- The hard cover contains four blocks of words, viz., (1) the title (2) name of the author, (3) school, institute, place, and (4) date (month and year) of submission, all of which are stamped in gold foil.
- All the blocks are balanced within the page with block (1) occupying the first line(s) and block (4), the last line of the hard cover, applying the same margin settings as in the manuscript.
- Fourteen (14)-point Times New Roman font with bold attribute for all elements is used. (See SAMPLE FORM 14: HARD COVER)
- Except for the date, all other items are in uppercase.

## APPENDIX A

### **SGS FORM 1: NOMINATION OF MEMBERS OF ADVISORY PANEL**

SGS Form 1  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City  
SCHOOL OF GRADUATE STUDIES

Date: \_\_\_\_\_

#### **NOMINATION OF MEMBERS OF ADVISORY PANEL**

- ☐ DISSERTATION  
☐ THESIS

The following graduate faculty members are recommended to compose the Advisory Panel of Mr./Ms. \_\_\_\_\_ in the graduate program leading to the degree \_\_\_\_\_.

Name	Signature
1. _____	_____ Chairperson/Adviser
2. _____	_____ Member
3. _____	_____ Member
4. _____	_____ Member
5. _____	_____ Member

The members of the Panel shall perform their functions in accordance with the Rules and Regulations of the School of Graduate Studies. They shall be entitled to honoraria in accordance with the Scheme of Honoraria approved by the Board of Regents, subject to the usual accounting and auditing rules and regulations.

This panel shall be in force until it has submitted its report to the Dean of the School of Graduate Studies.

RECOMMENDING APPROVAL:

APPROVED:

\_\_\_\_\_  
Program/College Coordinator

\_\_\_\_\_  
Dean, School of Graduate Studies

Distribution:

Panel Members  
Program Coordinator  
College Coordinator  
College Dean  
SGS Dean

APPENDIX B

**SGS FORM 2 : REQUEST FOR CHANGE OF  
ADVISER / PANEL MEMBER**

SGS Form 2  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

**REQUEST FOR CHANGE OF ADVISER / PANEL MEMBER**

- ☐ DISSERTATION  
☐ THESIS  
☐ SPECIAL PROJECT

Date: \_\_\_\_\_

Name : \_\_\_\_\_ Degree: \_\_\_\_\_

Change concurred in (please affix signature above printed name):

Adviser / Panel Member to be replaced:

Proposed Adviser / Panel Member:

\_\_\_\_\_

\_\_\_\_\_

Reason(s) for replacement:

Requested by:

\_\_\_\_\_  
Student

Recommending Approval:

Approved:

\_\_\_\_\_  
Program/College Coordinator

\_\_\_\_\_  
Dean, School of Graduate Studies

Distribution:

Program Coordinator  
College Coordinator  
SGS Dean

## APPENDIX C

### SGS FORM 3: APPROVAL FOR PROPOSAL HEARING

SGS Form 3  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

#### **APPROVAL FOR PROPOSAL HEARING**

- ☐ DISSERTATION  
☐ THESIS

As members of the Advisory Panel of Mr./Ms. \_\_\_\_\_,  
we recommend approval of the student's application for proposal hearing.

_____	_____
Chairperson	Date
_____	_____
Chairperson	Date
_____	_____
Chairperson	Date
_____	_____
Chairperson	Date
_____	_____
Chairperson	Date

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_ **PLACE:** \_\_\_\_\_

Recommending Approval:

Approved by:

\_\_\_\_\_  
Program/College Coordinator

\_\_\_\_\_  
Dean, School of Graduate Studies

Date: \_\_\_\_\_

IMPORTANT:

1. This form, together with a copy of the manuscript, must be submitted to the School of Graduate Studies at least one (1) week prior to the scheduled proposal hearing.
2. Each member of the panel must be provided with a copy of the manuscript.
3. The proposal hearing must be open to the public.
4. The student must attach to this form the official receipt of the proposal fee.

APPENDIX D

**SGS FORM 4: APPROVAL OF PROPOSAL**

SGS Form 4  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City  
  
SCHOOL OF GRADUATE STUDIES

**APPROVAL OF PROPOSAL**

- ☐ DISSERTATION  
☐ THESIS

Date filed: \_\_\_\_\_

Name : \_\_\_\_\_

Degree : \_\_\_\_\_ Specialization: \_\_\_\_\_

Dissertation/Thesis Title: \_\_\_\_\_

Comments: \_\_\_\_\_

**APPROVED:**

Advisory Panel:

_____	_____
Chairperson/Adviser	Date
_____	_____
Member	Date
_____	_____
Member	Date
_____	_____
Member	Date
_____	_____
Member	Date

**Note:**

Submit this approval sheet and the Proposal, together with the recommendations of the examiners, to the School of Graduate Studies.

APPENDIX D (Contd.)

**SGS FORM 4: APPROVAL OF PROPOSAL (Contd.)**

SGS Form 4  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City  
SCHOOL OF GRADUATE STUDIES

Date: \_\_\_\_\_

**PROPOSAL HEARING**

- ☐ DISSERTATION  
☐ THESIS

Name: \_\_\_\_\_

Dissertation/Thesis Title: \_\_\_\_\_  
\_\_\_\_\_

Recommendations:

\_\_\_\_\_  
Examiner  
(Signature over printed name)

## APPENDIX E

### SGS FORM 5: NOMINATION OF MEMBERS OF ORAL EXAMINATION PANEL

SGS Form 5  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

\_\_\_\_\_  
Date

#### NOMINATION OF MEMBERS OF ORAL EXAMINATION PANEL

- ☐ DISSERTATION  
☐ THESIS  
☐ SPECIAL PROJECT

The following graduate faculty members are recommended to compose the Oral Examination Panel of Mr./Ms. \_\_\_\_\_ in the graduate program leading to the degree \_\_\_\_\_.

Name	Signature
1. _____	_____ Chairperson / Adviser
2. _____	_____ Member
3. _____	_____ Member
4. _____	_____ Member
5. _____	_____ Member

The members of the Panel shall perform their functions in accordance with the Rules and Regulations of the School of Graduate Studies. They shall be entitled to honoraria in accordance with the Scheme of Honoraria approved by the Board of Regents, subject to the usual accounting and auditing rules and regulations.

This Panel shall be in force until it has submitted its report to the Dean of the School of Graduate Studies.

Recommending Approval:

Approved by:

\_\_\_\_\_  
Program/College Coordinator

\_\_\_\_\_  
Dean, School of Graduate Studies

Distribution:

All Panel Members  
Program Coordinator  
College Coordinator

College Dean  
SGS Dean



## APPENDIX F

### SGS FORM 6: APPROVAL FOR FINAL DEFENSE

SGS Form 6  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

#### **APPROVAL FOR FINAL DEFENSE**

- ☐ DISSERTATION  
☐ THESIS  
☐ SPECIAL PROJECT

As members of the Oral Examination Panel for the defense of Mr./Ms. \_\_\_\_\_, we have examined his/her manuscript entitled \_\_\_\_\_ and found it to be in order. We have not found any gross error in the manuscript. We, therefore, recommend the approval of the student's application for the final defense.

_____ Chairperson / Adviser	_____ Date
_____ Member	_____ Date
_____ Member	_____ Date
_____ Member	_____ Date
_____ Member	_____ Date

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_ **PLACE:** \_\_\_\_\_

Recommending Approval:

Approved by:

\_\_\_\_\_  
Program/College Coordinator

\_\_\_\_\_  
Dean, School of Graduate Studies

Date: \_\_\_\_\_

- IMPORTANT: 1. This form, together with a copy of the manuscript, must be submitted to the School of Graduate Studies at least **one (1) week** prior to the scheduled final defense.
2. An accompanying poster, 30" x 40" (preferably tarpaulin), must be shown containing a summary of the study (Abstract, Introduction, Research Design and Methodology, Results and Discussion, Conclusions and Recommendations).
3. Each member of the panel must be provided with a copy of the manuscript.
4. The final defense, which is a public oral examination, must be conducted at least **one (1) month** before graduation day.
5. The student must attach to this form the official receipt of the defense fee.

APPENDIX G

**SGS FORM 7: ORAL EXAMINATION REPORT IN FINAL DEFENSE  
OF DISSERTATION/THESIS/SPECIAL PROJECT**

SGS Form 7  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

**ORAL EXAMINATION REPORT IN FINAL DEFENSE OF**

- ☐ **DISSERTATION**  
☐ **THESIS**  
☐ **SPECIAL PROJECT**

Name of Student: \_\_\_\_\_

Dissertation/Thesis/Special Project Title: \_\_\_\_\_

Date: \_\_\_\_\_

This evaluation form is designed to assist the panelists in making an objective evaluation of the student's manuscript and his/her oral performance. Please rate each item either passed or failed.

1. Dissertation/Thesis/Special Project Presentation

- a. Organization ----- \_\_\_\_\_  
b. Presentation ----- \_\_\_\_\_  
c. Content ----- \_\_\_\_\_

2. Mastery of Subject Matter ----- \_\_\_\_\_

3. Ability to defend ideas ----- \_\_\_\_\_

4. Receptiveness towards suggestions given ----- \_\_\_\_\_

Overall Evaluation:

Passed \_\_\_\_\_

Failed \_\_\_\_\_

Conditional \_\_\_\_\_

\_\_\_\_\_  
Examiner  
(Signature over Printed Name)

Note: Write all suggested modifications or changes, if any, on the other sheet of paper.

APPENDIX G (Contd.)

ORAL EXAMINATION REPORT IN FINAL DEFENSE OF DISSERTATION/THESIS/SPECIAL PROJECT (Contd.)
---

SGS Form 7 (Contd.)  
(Updated Feb. 2008)

Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

Date: \_\_\_\_\_

Name of Student: \_\_\_\_\_

Dissertation/Thesis/Special Project Title: \_\_\_\_\_

\_\_\_\_\_

Recommendations:

\_\_\_\_\_  
Examiner  
(Signature over Printed Name)

## APPENDIX H

### SGS FORM 8: PANEL ORAL EXAMINATION REPORT

SGS Form 8  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

#### **PANEL ORAL EXAMINATION REPORT**

\_\_\_\_\_  
Date of Examination

We, the members of the Oral Examination Panel, report that we have examined

\_\_\_\_\_  
(Name of Student)

On the basis of the student's final defense of his/her

- ☐ DISSERTATION  
☐ THESIS  
☐ SPECIAL PROJECT

we submit the following result:

- ☐ He/She passed the final defense without modification of the manuscript.  
☐ He/She passed the final defense provided that the attached list of suggestions/changes be reflected.  
☐ He/She failed the final defense because of the following reasons:

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

Remarks (if any):

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

Name	Signature
_____ Chairperson / Adviser	_____
_____ Member	_____
_____ Member	_____
_____ Member	_____
_____ Member	_____

## APPENDIX I

### SGS FORM 9: APPROVAL FOR BINDING

SGS Form 9  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

\_\_\_\_\_  
Date

#### APPROVAL FOR BINDING

- ☐ DISSERTATION  
☐ THESIS  
☐ SPECIAL PROJECT

This is to certify that we have examined the manuscript of Mr./Ms. \_\_\_\_\_ and found that all the comments and recommendations of the Oral Examination Panel had been reflected.

This certification is issued to allow the student to submit the manuscript for final binding.

The Oral Examination Panel:

Name	Signature
1. _____	_____ Chairperson/Adviser
2. _____	_____ Member
3. _____	_____ Member
4. _____	_____ Member
5. _____	_____ Member

Recommending Approval:

\_\_\_\_\_  
Program/College Coordinator

Approved:

\_\_\_\_\_  
Dean, School of Graduate Studies

APPENDIX J

**SGS FORM 10: APPLICATION FOR WRITTEN EXAMINATION**

SGS Form 10  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

**APPLICATION FOR WRITTEN EXAMINATION**

- ☐ Comprehensive Exam  
☐ Preliminary Exam (SDS)

Name: \_\_\_\_\_

Degree: \_\_\_\_\_

Major: \_\_\_\_\_

Indicate whether ☐ First or ☐ Second examination.

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_ **PLACE:** \_\_\_\_\_

This is to certify that I have completed all the requirements of the graduate program necessary in taking the Examination.

\_\_\_\_\_  
Student

Recommending Approval:

Approved:

\_\_\_\_\_  
Program/College Coordinator

\_\_\_\_\_  
Dean, School of Graduate Studies

- Reminders: 1. This application should be filed in the School of Graduate Studies at least one (1) week before the intended date of examination.  
2. The student must attach to this form the official receipt of the examination fee.

## APPENDIX K

### SGS FORM 11: NOMINATION OF MEMBERS OF WRITTEN EXAMINATION COMMITTEE

SGS Form 11  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City  
SCHOOL OF GRADUATE STUDIES

Date \_\_\_\_\_

#### **NOMINATION OF MEMBERS OF WRITTEN EXAMINATION COMMITTEE**

- ☐ Comprehensive Exam  
☐ Preliminary Exam (SDS)

The following graduate faculty members are recommended to compose the Written Examination Committee of Mr./Ms. \_\_\_\_\_ leading to the degree \_\_\_\_\_.

Name	Signature
1. _____	_____ Chairperson/Adviser
2. _____	_____ Member
3. _____	_____ Member
4. _____	_____ Member
5. _____	_____ Member

**DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_ **PLACE:** \_\_\_\_\_

The members of the Committee shall perform their functions in accordance with the Rules and Regulations of the School of Graduate Studies. They shall be entitled to honoraria in accordance with the Scheme of Honoraria approved by the Board of Regents, subject to the usual accounting and auditing rules and regulations.

This Committee shall be in force until it has submitted its report to the Dean of the School of Graduate Studies.

Recommending Approval:

Approved:

\_\_\_\_\_  
Program/College Coordinator

\_\_\_\_\_  
Dean, School of Graduate Studies

Distribution:

All Committee Members  
Program Coordinator  
College Coordinator  
College Dean  
SGS Dean

APPENDIX L

**SGS FORM 12: WRITTEN EXAMINATION REPORT**

SGS Form 12  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University  
ILIGAN INSTITUTE OF TECHNOLOGY  
Iligan City

SCHOOL OF GRADUATE STUDIES

Date \_\_\_\_\_

**WRITTEN EXAMINATION REPORT**

- ☐ Comprehensive Exam  
☐ Preliminary Exam (SDS)

This is to certify that Mr./Ms. \_\_\_\_\_  
obtained the following results in the written examination leading to the degree  
\_\_\_\_\_ given on \_\_\_\_\_.

<u>Subject/Area</u>	<u>Score/Perfect Score</u>	<u>Remarks</u> <u>(Passed or</u> <u>Failed)</u>	<u>Signature</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Recommendations:

\_\_\_\_\_  
Chairperson/Adviser  
Examination Committee

Attested by:

\_\_\_\_\_  
Program/College Coordinator

Note: Two (2) copies of this written examination report shall be submitted to the School of Graduate Studies within two weeks after the examination.



## APPENDIX M

### SGS FORM 13: APPLICATION FOR INTENTION TO GRADUATE

SGS Form 13  
(Updated Feb. 2008)

Republic of the Philippines  
Mindanao State University-Iligan Institute of Technology  
**SCHOOL OF GRADUATE STUDIES**

#### APPLICATION FOR INTENTION TO GRADUATE

Name : \_\_\_\_\_ Date Filed: \_\_\_\_\_  
Home Address : \_\_\_\_\_ Local Address: \_\_\_\_\_

Tel. No. \_\_\_\_\_ Tel. No. \_\_\_\_\_

Previous (BS or MS) Degree: \_\_\_\_\_

Year Obtained : \_\_\_\_\_ Name of Institution \_\_\_\_\_

Degree Sought : \_\_\_\_\_ Major \_\_\_\_\_  
Minor \_\_\_\_\_

Research Title for (pls. check): ☐ DISSERTATION ☐ THESIS ☐ SPECIAL PROJECT

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

Research Adviser: \_\_\_\_\_

Date of Comprehensive Exam (if any): \_\_\_\_\_

Did you cross-register in any other schools? \_\_\_\_\_ Yes \_\_\_\_\_ No

<u>Name of School</u>	<u>Courses Taken</u>	<u>Units</u>	<u>Grade</u>	<u>MSU Equivalent</u>	<u>Grade</u>	<u>Units</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Have you applied for Transfer of Credits from other schools? \_\_\_\_\_ Yes \_\_\_\_\_ No

<u>Name of School</u>	<u>Courses Taken</u>	<u>Units</u>	<u>Grade</u>	<u>MSU Equivalent</u>	<u>Grade</u>	<u>Units</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

When do you intend to graduate?    October \_\_\_\_\_    March \_\_\_\_\_    Summer \_\_\_\_\_

\_\_\_\_\_  
Research Adviser

\_\_\_\_\_  
Student's Signature

Distribution: SGS Office  
Program Coordinator

## APPENDIX N

### **SAMPLE FORM 1: CERTIFICATE OF AUTHENTIC AUTHORSHIP**

#### **CERTIFICATE OF AUTHENTIC AUTHORSHIP**

I hereby declare that this submission is my own work and, to the best of my knowledge, it contains no materials previously published or written by another person, nor material which, to a substantial extent, has been accepted for the award of any other degree or diploma at MSU-IIT or any other educational institution, except where due acknowledgement is made in the manuscript. Any contribution made to the research by others, with whom I have worked at MSU-IIT or elsewhere, is explicitly acknowledged in the manuscript.

I also declare that the intellectual content of this manuscript is the product of my own work, except to the extent that assistance from others in the project's design and conception or in style, presentation and linguistic expression is acknowledged.

---

Signature over Printed Name

APPENDIX O

**SAMPLE FORM 2: TITLE PAGE**

**THE EXPERIMENTAL STUDY OF IMPACT ABSORPTION  
CAPABILITY OF A SQUARE – GRID DESIGNED  
CHIPBOARD MATERIAL**

A THESIS

Presented to  
the Graduate Faculty of  
Master of Science in Mechanical Engineering  
MSU - Iligan Institute of Technology  
Iligan City

In Partial Fulfillment  
of the Requirements for the Degree  
MASTER OF SCIENCE IN MECHANICAL ENGINEERING

**HERIBERTO S. GODORNES**

February 2003

APPENDIX P (a)

**SAMPLE FORM 3a: CERTIFICATE OF PANEL APPROVAL**



Mindanao State University  
**ILIGAN INSTITUTE OF TECHNOLOGY**  
Iligan City, 9200 Philippines

**SCHOOL OF GRADUATE STUDIES**

**CERTIFICATE OF PANEL APPROVAL**

The dissertation, attached hereto, entitled “**XXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXX XXXXXXXXXX**”, prepared and submitted by **XXXXXXXXXXXX** in partial fulfillment of the requirements for the degree **DOCTOR OF PHILOSOPHY**, is hereby recommended for approval.

XXXXXXXX XXXX XXXXX

Member

\_\_\_\_\_  
Date

XXXXXXXXXXXXXXXXXXXX XXXXX

Member

\_\_\_\_\_  
Date

XXXXXXXXXXXXXXXXXXXX

Adviser

\_\_\_\_\_  
Date

This dissertation is approved in partial fulfillment of the requirements for the degree **XXXXXX XXXXXXXXXXXX XXXXXXXXXXXX**.

XXXXXX XXXXXXXX XXXXXXXX

Graduate Program Coordinator

\_\_\_\_\_  
Date

XXXXXX XXXXXXXX XXXXXXXX

Dean, College Science and Mathematics

\_\_\_\_\_  
Date

XXXXXXXXXXXXXXXXXXXX

Dean, School of Graduate Studies

\_\_\_\_\_  
Date

Mindanao State University  
**ILIGAN INSTITUTE OF TECHNOLOGY**  
Iligan City, 9200 Philippines



**PAARALAN NG MGA PAG-AARAL NA GRADWADO**

APPENDIX P (b)

**SAMPLE FORM 3b: SERTIPIKO NG PAGPAPATIBAY NG PANEL**

Itong tesis na pinamamagatang “XXXXXXXXXXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXX”, na iniha at isinumite ni XXXXXXXXXXXXXXX bilang bahagi ng mga pangangailangan para sa digring **MASTER OF ARTS IN FILIPINO**, ay inirekomendang tanggapin at pagtibayin.

Miyembro

## Petsa

Miyembro

Petsa

Miyembro

## Petsa

Adbayser

## Petsa

Pinagtibay bilang bahagi ng pangangailangan para sa digring **MASTER OF ARTS IN FILIPINO.**

## Program Koordineytor

## Petsa

Dekano, Kolehiyo ng mga Sining at  
Agham Panlipunan

Petsa

**Dekano, Paaralan ng mga Pag-aaral na Gradwado**

## Petsa

## SAMPLE FORM 4: ABSTRACT

The study of the impact absorption of a grid-designed chipboard material is carried out. A rig is designed and fabricated for the experiment. The experiment involves impact and deformation measurement with variable load at constant height.

All test specimens are made of a square grid-designed chipboard material measuring 20cm by 4cm. There are six types of specimens each having 4, 6, 8, 10, 22 and 34 pieces of 20cm × 4cm chipboard material, respectively. The materials of each specimen are assembled in a square grid pattern.

There are two groups of specimen: Group I – Specimens 1 to 6 without a glue in its joint, and Group II – Specimens 1 to 6 with glue at the top and bottom portion of the joints. A total of 150 test specimens without glue and 60 specimens with glue are used in the experiment.

The results show a trend with regards to impact, deformation and type of specimen at varying loads. Of the six specimens tested, whether glued or not, specimen 4 (thirty-sixth grid) is considered the best based on the maximum impact absorption and minimum deformation characteristics.

The study recommends exploring further the possibility of evaluating and testing the impact absorption capability of materials other than chipboard and using loads greater than 2.5kg and a height greater than 10.16cm

## APPENDIX R

<b>SAMPLE FORM 5: DEDICATION</b>
----------------------------------

*This work is lovingly dedicated to*

**OUR ALMIGHTY GOD**

*My wife xxxxx*

*My daughters xxxxxxxxx and xxxxxxxxx*

*My sons xxxxxxxxx and xxxxxxxxx*

*And my mother xxxxxxxxx*

APPENDIX S

<b>SAMPLE FORM 6: ACKNOWLEDGEMENT</b>
---------------------------------------



## ACKNOWLEDGEMENT

My heartfelt thanks go to the following persons for their valuable contribution in the conduct and completion of this study:

- to my adviser, XXXXXXXXXXXXXXXX, for his support and direction, motivation and guidance;
- to XXXXXXXXXXXXXXXX for his valuable motivation and encouragement for me to pursue this study;
- to XXXXXXXXXXXXXXXX and XXXXXXXXXXXXXXXX of the XXXXXX XXXXXXXXXXXXXXXX for their financial support;
- to XXXXXXXXXXXXXXXX for her assistance in the report preparation;
- to XXXXXXXXXXXXXXXX, XXXXXXXX and XXXXXXXX, for their help and assistance in the fabrication of the different test specimens used in the project;
- to XXXXXXXXXXXXXXXX (XXXXXXXXXXXXXXXXXX) for his help in the fabrication of the test rig for the experiment;
- most importantly, to my wife XXXXXXXX, to my children XXXXXX and XXXXXXXXXXXX, who gave me love, understanding, care and moral support during the course of my masteral study; and
- above all, to the Heavenly Father, for His unending love, guidance, and for giving me the knowledge, wisdom, patience and strength all throughout this work.

XXXXXXXXXXXXX

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## CHAPTER 4

### RESULTS AND DISCUSSIONS

#### 4.1 Purity of bacterial isolates based on physical characteristics

Bacterial isolates: *Bacillus* spp. 1 and 2 and *Chryseomonas* sp. 2 which were known to absorb heavy metal species from the previous study [4] were re-purified using the standard techniques in microbiology. The purified bacteria have the same physical characteristics based on the references chart for determination of cultural characteristics of isolates (Appendix A) as in the previous study. Tables 4.1 to 4.3 list the observed cultural characteristics of this research as against that previously characterized.

**Table 4.1** Comparative summary of *Bacillus* sp. 1 from the previous [4] and current research

Characteristic	<i>Bacillus</i> sp.1	
	Previous [4]	Current
<b>4. Colony morphology</b>		
a. Form	Circular	Circular
b. Elevation	Flat	Flat
c. Margin	Entire	Entire
d. Color	Creamy White	Creamy White
<b>5. Cell morphology</b>		
a. Gram Reaction	Positive	Positive
b. Shape	Long rods	Long rods
c. Arrangement of Cells	Singly	Singly

All the observed cultural characteristics are similar with that obtained in the previous study. These suggest that the re-purified bacteria are the same bacteria that were used in the previous study and in this research. Digital photographs of the purified bacterial isolates of this research are shown in Figures 4.1 to 4.3. All the featured characteristics as observed in this study are exactly the same with that observed in the previous study. The results confirm exactly that the bacterial strains used in this study were the same with that of the previous study.



**Figure 4.1.** Digital photograph of *Bacillus sp.1*.



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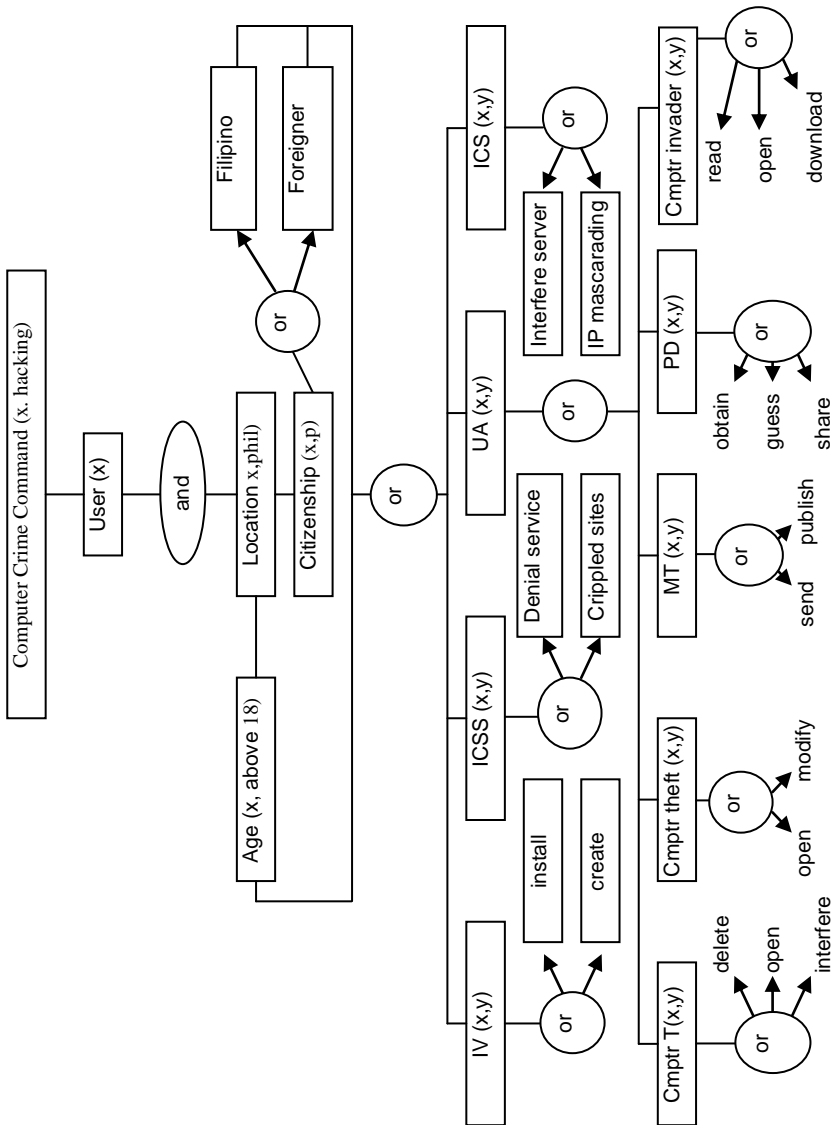


Figure 12. Computer Crime Committed - Hacking

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**SAMPLE FORM 11: CHAPTERS, TABLES, FIGURES, PAGINATION**  
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Table 3. Abundance of reef fishes observed in the three 50m transects of the deep and shallow station of Samburon, Linamon, Lanao del Norte.

TAXONOMY	DEEP				SHALLOW			
	1	2	3	Sum	1	2	3	Sum
<b>ACANTHURIDAE</b>								
<i>Ctenochaetus binotatus</i>				0				0
<i>C. striatus</i>				0		1		1
<i>Zebrasoma scopas</i>				0				0
<b>subtotal</b>				<b>0</b>				<b>1</b>
<b>APOGONIDAE</b>								
<i>Apogon compressus</i>				0				0
<i>Apogon sp.</i>				0				0
<i>Archamia fucata</i>				0				0
<i>Cheilodipterus artus</i>				0			5	5
<i>C. quinquelineata</i>				0				0
<b>subtotal</b>				<b>0</b>				<b>5</b>
<b>AULOSTOMIDAE</b>								
<i>Aulostomus chinensis</i>				0				0
<b>BALISTIDAE</b>								
<i>Balistapus undulatus</i>				0		1		1
<b>CENTRISCIDAE</b>								
<i>Aeoliscus strigatus</i>				0				0
<b>CHAESIONIDAE</b>								
<i>Caesio teres</i>				0				0
<i>Pterocaesio lativittata</i>				0			7	7
<i>P. pisang</i>	25			25	15			15
<b>subtotal</b>				<b>25</b>				<b>22</b>
<b>CHAETODONTIDAE</b>								
<i>Chaetodon barronesa</i>				0				0
<i>C. kleinii</i>	2		7	9	5	2		7
<i>C. vegabundus</i>				0				0
<i>Chaetodon sp.</i>				0			2	2
<i>Coradion Chrysozumos</i>				0				0
<i>Focipiger longirostris</i>				0				0
<i>Heniochus Chrysostomus</i>				0				0
<i>H. singularis</i>	1			1				0
<i>H. varius</i>	1			1	2			2
<b>subtotal</b>				<b>11</b>				<b>11</b>

## APPENDIX X (Contd.)

SAMPLE FORM 11: CHAPTERS, TABLES, FIGURES, PAGINATION  
(Contd.)

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Table 3 (contd.)

TAXONOMY	DEEP				SHALLOW			
	1	2	3	Sum	1	2	3	Sum
<b>CIRRHITIDAE</b>								
<i>Cirrhichthys falco</i>				0				0
<i>C. oxcephalus</i>				0	2			2
<b>subtotal</b>				<b>0</b>				<b>2</b>
<b>FISTULARIDAE</b>								
<i>Fistularia commersonii</i>				0				0
<b>GOBIIDAE</b>								
<i>Exyrias belissimus</i>		1		1				0
<b>HAEMULIDAE</b>								
<i>Plectorhinchus</i>				0				0
<i>chaetodonoides</i>				0				0
<i>P.gaterinioides</i>				0				0
<b>HOLOCENTRIDAE</b>								
<i>Sargocontron Microstoma</i>				0			16	16
<b>LABRIDAE</b>								
<i>Bodianus diana</i>				0				0
<i>B. mesothorax</i>	1		1	2				0
<i>Cheilinus chlorourus</i>				0				0
<i>C. orientalis</i>				0				0
<i>Choreodon anchorago</i>	1	1	1	3				0
<i>Cirrhilabrus cyanopleura</i>	2			2				0
<i>Cirrhilabrus exquisitus</i>				0				0
<i>Coris gaimard</i>				0				0
<i>Coris variegata</i>				0			1	1
<i>Epibulus insidiator</i>				0		1		1
<i>Gomphosus varius</i>				0				0
<i>Halichoeres hartzfeldii</i>		1		1				0
<i>H. hotulanus</i>	4		4	8	1	5		6
<i>H. melanurus</i>	1			1				0
<i>H. melasmapomus</i>				0				0
<i>H. richmondi</i>				0				0
<i>H. scapularis</i>	1			1		2		2
<i>Hemigymnus melapterus</i>				0		3		3
<i>Labrichthys unilineatus</i>				0				0
<i>Labroides dimidiatus</i>	2		2	4		2	5	7
<i>Macropharyngodon</i>	1			1		1		1

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## APPENDIX Z

### SAMPLE FORM 13: APPENDIX

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## APPENDIX B

### STATISTICAL DATA

**Table B.1      Analysis of variance for angled cube based on the whole spindle**

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Velocity	0.0195244	4	0.0048109	33.73	1.0E-4
Length of Sides	0.531726	3	0.177242	1224.95	1.0E-4
INTERRACTION	0.0174909	12	0.00145758	10.07	1.0E-4
RESIDUAL	0.00578774	40	1.44693E-4		
Total (corr.)	0.574529	59			

**Table B.2      Analysis of variance for angled cube based on the shortened spindle**

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Velocity	0.00207977	4	5.19942E-4	3.59	0.0136
Length of Sides	0.2693	3	0.0897665	619.86	1.0E-4
INTERRACTION	0.042541	12	0.00354509	24.48	1.0E-4
RESIDUAL	0.0057927	40	1.44817E-4		
Total (corr.)	0.319713	59			

#### Statistical Interpreter

- ❖ The ANOVA table decomposes the variance of the data into four components: a component due to the differences between levels of velocity, a component due to differences between levels of length of sides, a component due to interactions between velocity and length of sides, and a residual component.
- ❖ F-test has been run to determine which factors are statistically significant. The following factors have P-values below 0.05 and thus correspond to statistically significant effects. These effects are velocity, length of sides and interaction.

## SAMPLE FORM 13: APPENDIX (Contd.)

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APPENDIX A  
EXPERIMENTAL DATA

Table A. 1	Drag reading whole spindles	Table A.2	Drag reading on shortened spindles	Drag Force												Temp.: 30 C					
Velocity	Drag Force	Velocity	Supporting Diameter 2 mm	Supporting Diameter 4 mm								Supporting Diameter 4 mm				Temp.: 30 C					
	Height: 191 mm			Height								Height									
	Supporting Diameter			Height								Height									
	2 mm	4 mm		183.5 mm	178.5 mm	166 mm	141 mm	141 mm	141 mm	141 mm	153.5 mm	0.008	0.012	0.015	0.015	0.02	0.025	0.03	0.04	0.054	0.07
8	0.005	0.01	8	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.008	0.008	0.012	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
10	0.01	0.02	10	0.008	0.008	0.006	0.006	0.006	0.006	0.006	0.008	0.008	0.012	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
11	0.013	0.025	11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.012	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
12	0.015	0.03	12	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016
14	0.02	0.04	14	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
16	0.025	0.05	16	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
17	0.029	0.058	17	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
20	0.04	0.08	20	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
22	0.05	0.1	22	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
24	0.06	0.12	24	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Pressure: 768.7 mmHg		Temp.: 29.2 C		Pressure: 767.4 mmHg		Temp.: 30 C		Density: 1.182 kg/cu. m.		Density: 1.177 kg/cu. m.		Temp.: 30 C		Temp.: 30 C		Temp.: 30 C		Temp.: 30 C		Temp.: 30 C	

60

APPENDIX AA

**SAMPLE FORM 14: HARD COVER**

ULTIMATE TENSILE AND COMPRESSIVE STRENGTH  
OF CONCRETE CONTAINING COIR FIBERS

MILON P. LABADAN

SCHOOL OF GRADUATE STUDIES  
MINDANAO STATE UNIVERSITY  
ILIGAN INSTITUTE OF TECHNOLOGY  
ILIGAN CITY

March 2001

APPENDIX AB

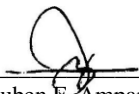
**SAMPLE FORM 15: HARD COVER ON SPINE**

|| A.C. SAAVEDRA || A DISTRIBUTED DATABASE FOR THE... || MSCA || MSU-ITT || 2002 ||

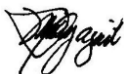
Prepared and submitted by the Graduate Coordinators' Committee:



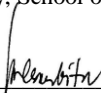
Dr. Jerson N. Orejudos  
Dean, School of Graduate Studies



Dr. Ruben F. Amparado, Jr.  
Coordinator, Sustainable Development Studies



Dr. Ma. Cristina L. Duyaguit  
Secretary, School of Graduate Studies



Dr. Maria Luisa S. Orbita  
Coordinator, College of Science & Mathematics



Prof. Alquine Roy F. Taculin  
Coordinator, School of Computer Studies



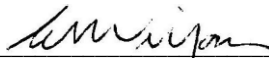
Dr. Manuel B. Barquilla  
Coordinator, College of Education



Prof. Milagros R. Narido  
Coordinator, College of Business  
Administration



Dr. Sulpecia L. Ponce  
Coordinator, College of Arts &  
Social Sciences



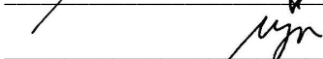
Dr. Eliseo P. Villanueva  
Coordinator, College of Engineering

**Office Staff:**

Ms. Cheryl C. Encabo



Ms. Vanessa Joy A. Namocatcat



Mr. Benjamin V. Tubo

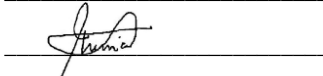


**Office/Student Assistants:**

Jivv Roy B. Manaloto



Ian G. Trenia



**Cover Picture:**

Prof. Rosalio G. Artes, Jr.



Prof. Julius V. Benitez

