

COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY  
UNIVERSITY OF THE PHILIPPINES LOS BAÑOS



**FORMATTING and SUBMISSION  
GUIDELINES for  
UNDERGRADUATE  
THESIS, INNOVATIONEERING and  
ENGINEERING INDUSTRY RESEARCH (EIR)  
MANUSCRIPTS**

7<sup>th</sup> Edition  
Effective April 3, 2023

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# Article 1

## General Guidelines<sup>1</sup>

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### Section 1.1. General Format

The formatting provisions stated under this article are hereby defined as the “general format” and shall be used throughout the whole manuscript. Deviations from these provisions are stated in specific sections or paragraphs in succeeding articles.

### Section 1.2. Paper Size and Dimensions

All manuscripts shall be printed in “A4 size” white bond paper. Such paper should have a nominal height of 297 mm, a nominal width of 210 mm and a weight not less than 80 grams per square meter (gsm).

### Section 1.3. Page Margin

The measurement of margins shall be reckoned from the edge of the page. The following margins shall apply:

Top:	2.50 cm
Bottom:	2.50 cm
Right:	2.50 cm
Left:	3.80 cm

### Section 1.4. Font Characteristics

Unless stated otherwise, the following font characteristics shall be applied to the whole manuscript (including page numbers):

Face:	Times New Roman	
Size:	12	
Color:	Black	
Style:	Regular	(NOT “ <b>bold</b> ”, “ <i>italicized</i> ” nor “ <u>underlined</u> ”)
Scale:	100%	(NOT “<100%” nor “>100%”)
Spacing:	Normal	(NOT “ <code>expanded</code> ” nor “ <code>condensed</code> ”)
Position:	Normal	(NOT “ <code>raised</code> ” nor “ <code>lowered</code> ”)

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<sup>1</sup> Throughout this document, provisions containing the word ‘shall’ are to be strictly followed, i.e., they are mandatory provisions. On the other hand, provisions containing the word ‘should’ may be interpreted as ‘preferred or recommendatory’ provisions in which slight deviations are permitted, provided that mandatory provisions are still upheld.

## Section 1.5. Paragraph Alignment

**1.5.1.** Unless stated otherwise, all paragraphs shall be justified, i.e. they shall be aligned to both left and right margins (see Example **1.5.2.**).

**1.5.2.** Example **1.5.2.**

College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering.

College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering.

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## Article 2

# Manuscript External Design and Structure<sup>1</sup>

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### Section 2.1. Manuscript Binding

Thesis, Innovationeering and EIR manuscripts shall be hardbound before submission. Manuscripts bound using other binding methods (soft bound, ring bound, etc) shall not be accepted.

### Section 2.2. Cover Color and Covering

**2.2.1.** Thesis manuscripts shall be covered with maroon hardbound book cover, Innovationeering manuscripts shall be covered with gray hardbound book cover, while EIR manuscripts shall be covered with dark blue hardbound book cover. Crocodile-skin covers shall not be used.

**2.2.2.** All manuscripts shall be covered with transparent plastic for added protection.

### Section 2.3. Letter Color

All letters to be engraved in the manuscript spine and front cover shall be gold in color, pressed against the maroon, gray or dark blue cover.

### Section 2.4. Design and Layout of the Front Cover of Thesis and EIR Manuscripts

**2.4.1.** The front cover page shall contain the following information:

- 2.4.1.1.** Full thesis or EIR title
- 2.4.1.2.** Full name of the author
- 2.4.1.3.** Degree
- 2.4.1.4.** Major (if any)
- 2.4.1.5.** Date of manuscript submission

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<sup>1</sup>The submission of hardbound copies of manuscripts depend on the policies implemented by the various academic units of CEAT. Authors shall coordinate with their respective advisers and academic units with regards to the submission of hardbound copies. See also Section [12.1](#) for the protocols for electronic submission.



**2.4.2.** The title shall be in uppercase letters (except for scientific names), center-aligned in the page and shall be laid out in an inverse pyramid manner. The first line of the title should be spaced about 5.0 cm below the top edge of the front cover.

**2.4.3.** The author's name shall be written in full, first name first, followed by middle name (not middle initial), and then surname. It shall be presented in uppercase letters, center-aligned in the page, and preferably, in single line only. The author's name should be positioned about 12.5 cm below the top edge of the front cover.

**2.4.4.** The degree shall be written in full, (e.g. BACHELOR OF SCIENCE IN AGRICULTURAL AND BIOSYSTEMS ENGINEERING not B.S. AGRICULTURAL AND BIOSYSTEMS ENGINEERING nor BS AGRICULTURAL AND BIOSYSTEMS ENG'G), in uppercase letters, center-aligned in the page, and in single line only. The degree should be positioned about 9.0 cm above the bottom edge of the front cover.

**2.4.5.** The major shall be written below the degree, in title case (i.e. the first letter of all significant words capitalized), and center-aligned in the page. The major shall be enclosed in parenthesis and shall be introduced by the phrase "Major in" followed by the major.

**2.4.6.** For consistency and uniformity, the following shall be used to indicate the major of the author:

**2.4.6.1.** Majors for BS Agricultural and Biosystems Engineering

- Agricultural, Food and Bioprocess Engineering
- Agribiosystems Machinery and Power Engineering
- Agrometeorology, Biostructures, and Environment Engineering
- Land and Water Resources Engineering

**2.4.6.2.** Majors for BS Chemical Engineering

- Sugar Technology
- Pulp and Paper Technology

**2.4.6.3.** Majors for BS Electrical Engineering

- Power Engineering
- Electronics Engineering
- Computer Engineering

**2.4.7.** The line for the major shall be omitted for students under the following curricula:

**2.4.7.1.** Bachelor of Science in Chemical Engineering (General Curriculum)

**2.4.7.2.** Bachelor of Science in Civil Engineering

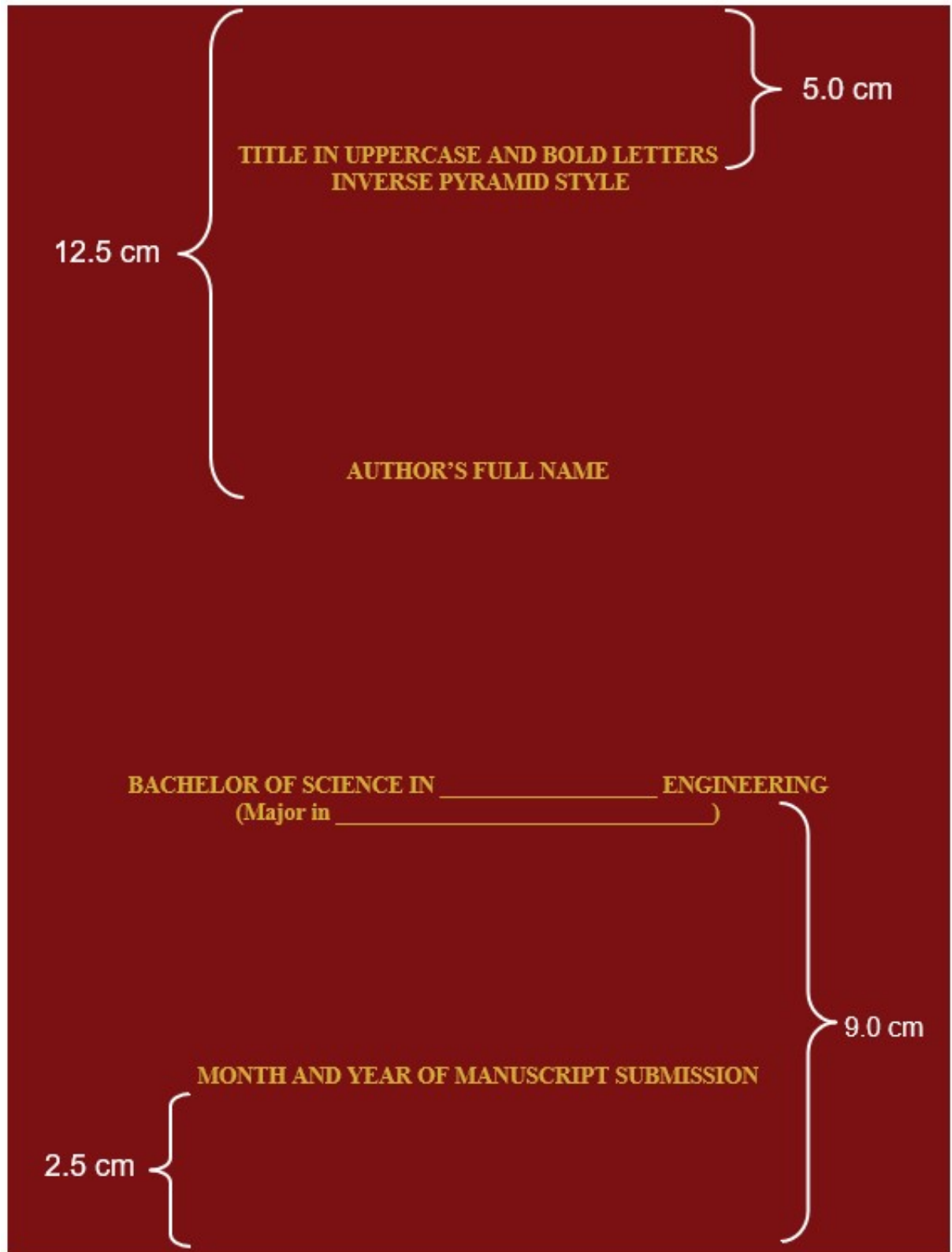
**2.4.7.3.** Bachelor of Science in Industrial Engineering

**2.4.7.4.** Bachelor of Science in Mechanical Engineering

**2.4.7.5.** Bachelor of Science in Materials Engineering

**2.4.8.** The date of manuscript submission shall correspond to the month and year when the numerical grades of the students in their thesis, Innovationeering or EIR course is submitted by their advisers to the office of the college secretary. It shall be written in uppercase letters and center-aligned in the page (e.g. for first semester: JANUARY 2020; for second semester: JUNE 2022 or MAY 2021; for mid-year: JULY 2023). It should be emphasized that even if the student submitted their manuscript at the start or middle of the semester, the date of manuscript submission shall still be the month and year when their numerical grade was submitted to the office of the college secretary, which is usually at the end of the semester or term. This date should be positioned about 5.0 cm above the bottom edge of the front cover (see Pattern [2.4.9.](#) and Example [2.4.10.](#)).

2.4.9. Pattern 2.4.9.



**2.4.10. Example 2.4.10.**

**DEVELOPMENT OF AN ENERGY HARVESTER FOR RURAL WATER  
DISTRIBUTION PIPELINES USING MODIFIED DIRECT DRIVE  
MOTOR AS GENERATOR DRIVEN BY CENTRIFUGAL  
PUMP AS TURBINE (PAT)**

**PETER JE CHAN DILAO**

**BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING  
(Major in Power Engineering)**

**JUNE 2018**

## Section 2.5. Design and Layout of the Manuscript Spine of Thesis and EIR Manuscripts

**2.5.1.** The manuscript spine shall contain the following information:

**2.5.1.1.** First letter of the author's surname

**2.5.1.2.** Acronym of the degree

**2.5.1.3.** Surname and initials of the author

**2.5.1.4.** Year of manuscript submission

**2.5.2.** The top and bottom edges of the spine shall be bordered by two gold lines as indicated in Pattern **2.5.8**.

**2.5.3.** The first letter of the author's surname shall be bordered by two gold lines positioned 2.5 cm below the top edge of the spine. The letter should be centered between these lines and the lines at the top edge of the spine (see Pattern **2.5.8** and Example **2.5.9**).

**2.5.4.** The acronym of the degree (BS\_\_\_\_) should be positioned about 5.0 cm below the top edge of the spine.

**2.5.5.** For consistency, the following terms shall be used to indicate the acronym of the different degrees:

**2.5.5.1.** BSABE for BS in Agricultural and Biosystems Engineering

**2.5.5.2.** BSChE for BS in Chemical Engineering

**2.5.5.3.** BSCE for BS in Civil Engineering

**2.5.5.4.** BSEE for BS in Electrical Engineering

**2.5.5.5.** BSIE for BS in Industrial Engineering

**2.5.5.6.** BSME for BS in Mechanical Engineering

**2.5.5.7.** BSMatE for BS in Materials Engineering

**2.5.6.** The year of manuscript submission should be positioned about 5.0 cm above the bottom edge of the spine.

**2.5.7.** The author's name shall be written in reverse, surname first, followed by a comma, first name initials and middle initial. It shall be in uppercase letters and centered between the acronym of the degree and the year of manuscript submission.

**2.5.8.** Pattern **2.5.8**.



**2.5.9.** Example **2.5.9**.



## Section 2.6. Design and Layout of the Front Cover of Innovationeering Manuscripts

**2.6.1.** The front cover page shall contain the following information:

**2.6.1.1.** Full Innovationeering title

**2.6.1.2.** Full name of the authors

**2.6.1.3.** Degree of the authors

**2.6.1.4.** Major of the authors (if any)

**2.6.1.5.** Date of manuscript submission

**2.6.2.** The title presentation for Innovationeering manuscripts shall conform with the salient provisions stated in Section [2.4.2](#).

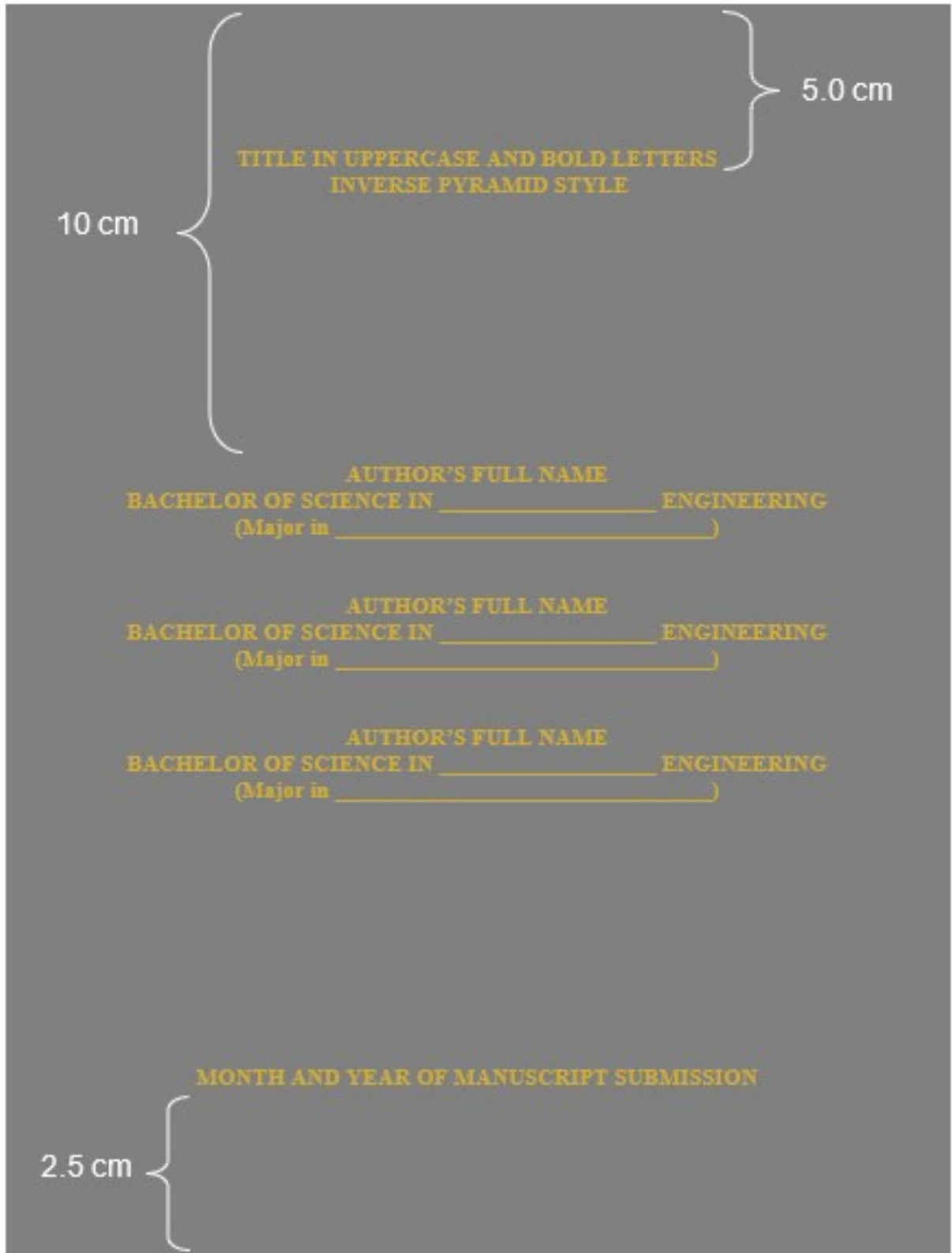
**2.6.3.** For innovationeering manuscripts, the name of the authors shall be listed according to the sequence agreed upon by the authors and with the approval of the guidance committee. This author sequence shall be followed throughout the manuscript.

**2.6.4.** An individual author's name shall be written in full, first name first, followed by middle name (not middle initial), and then surname. It shall be presented in uppercase letters, center-aligned in the page, and preferably, in single line only. The author's name should be followed immediately by the degree and major. The next author's name shall follow after two (2) spaces (see Pattern [2.6.7](#) and Example [2.6.8](#)).

**2.6.5.** The degree and major of the authors shall conform with the provisions stated in Sections [2.4.4](#) to [2.4.7](#).

**2.6.6.** The date of manuscript submission for Innovationeering manuscripts shall conform with the provisions stated in Section [2.4.2](#).

2.6.7. Pattern 2.6.7.



**2.6.8. Example 2.6.8.**

**AN EXAMPLE TITLE OF AN INNOVATIONEERING MANUSCRIPT  
INVERSE PYRAMID STYLE**

**JUAN MENDOZA DELA CRUZ  
BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING  
(Major in Sugar Technology)**

**JOHN PAUL GONZALES REYES  
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING  
(Major in Electronics Engineering)**

**JAMES FLORES SANTOS  
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING**

**APRIL 2023**

## Section 2.7. Design and Layout of the Manuscript Spine of Innovationeering Manuscripts

**2.7.1.** The manuscript spine shall contain the following information:

**2.7.1.1.** The acronym 'CEAT'

**2.7.1.2.** Surnames of the authors arranged according to Section 2.6.3.

**2.7.1.3.** Acronym of the degree of each author

**2.7.1.4.** Year of manuscript submission

**2.7.2.** The top and bottom edges of the spine shall be bordered by two gold lines as indicated in Pattern 2.7.7.

**2.7.3.** The acronym 'CEAT' shall be bordered by two gold lines positioned 2.5 cm below the top edge of the spine. It should be centered between these lines and the lines at the top edge of the spine (see Pattern 2.5.8. and Example 2.5.9.).

**2.7.4.** The acronym of the degree shall conform with the provisions of Section 2.5.5.

**2.7.5.** The year of manuscript submission should be positioned about 4.0 cm above the bottom edge of the spine.

**2.7.6.** The authors' surnames shall be in uppercase letters. Each surname shall be followed by the acronym of their respective degrees enclosed in parenthesis. Each surname-degree group shall be separated by a comma. The surname-degree group shall be centered between the acronym 'CEAT' and the year of manuscript submission.

**2.7.7.** Pattern 2.7.7.



**2.7.8.** Example 2.7.8.





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## Article 3

# Preliminary Pages

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### Section 3.1. Contents of the Preliminary Pages

**3.1.1.** The preliminary pages for all manuscripts (arranged according to their order of presentation in the text) include the following:

- 3.1.1.1.** TITLE PAGE
- 3.1.1.2.** APPROVAL PAGE<sup>1</sup>
- 3.1.1.3.** BIOGRAPHICAL SKETCH<sup>2</sup>
- 3.1.1.4.** ACKNOWLEDGMENT
- 3.1.1.5.** TABLE OF CONTENTS
- 3.1.1.6.** LIST OF TABLES
- 3.1.1.7.** LIST OF FIGURES
- 3.1.1.8.** LIST OF APPENDICES<sup>3</sup>
- 3.1.1.9.** LIST OF APPENDIX TABLES
- 3.1.1.10.** LIST OF APPENDIX FIGURES
- 3.1.1.11.** ACRONYMS AND ABBREVIATIONS (if applicable)
- 3.1.1.12.** ABSTRACT

**3.1.2.** Each preliminary page shall be started on a new page, regardless of the space left in the previous page.

### Section 3.2. Style and Indexing Guidelines for Title Presentation

**3.2.1.** It should be emphasized that the student and the guidance committee have the inherent responsibility to ensure that the manuscript title adheres to accepted practices in indexing and style, including the proper use of scientific names and appropriate placement of names of places and institutions (and their acronyms) in the title.

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<sup>1</sup>This should be changed to 'APPROVAL PAGES' for Innovationeering manuscripts.

<sup>2</sup>This should be changed to 'BIOGRAPHICAL SKETCHES' for Innovationeering manuscripts.

<sup>3</sup>This should be changed to 'APPENDIX' if there is only one appendix section in the manuscript.

**3.2.2.** For titles containing names of places in the Philippines, the term “PHILIPPINES” should be added after the name of the place. The title shall include the city/municipality, followed by the province, then PHILIPPINES. For titles already containing the word “PHILIPPINES” such as company names or institutions, then the word “PHILIPPINES” may not be again written to avoid redundancy. In this case, the place to be written in the title is up to province only. If a well-known company or institution has no other branch, then only “PHILIPPINES” will be included in the title (city/municipality and province are not necessary at all). The members of the guidance committee shall ensure that this provision is strictly followed. See titles in Examples **3.11.7.** and **3.11.8.**

**3.2.3.** For titles containing scientific names of organisms the author shall secure a certification from the Museum of Natural History (MNH-UPLB) at least five (5) working days prior to submission to the guidance committee. The certification shall state the accepted and correct scientific name of the organism. The certification must be included as part of the Appendix. Furthermore, the author shall follow the recommendation of the MNH on how the scientific name should be written and positioned in the title and in the body of the manuscript. Scientific names should only be written when the object of the study pertains to plants, animals or bio-material/products. The members of the guidance committee shall ensure that this provision is strictly followed. See title in Example **3.11.6.**

**3.2.4.** For titles containing company names or institutions with acronyms, the spelled out acronym followed by the acronym itself enclosed in parenthesis shall be included in the title. The name of the company (and its acronym if applicable) to be used in the whole manuscript shall conform to the name approved by the company as stated in the form ‘CONSENT TO USE COMPANY NAME IN MANUSCRIPT’ (see CEAT Form **1.4**). This form shall only be used as reference for the verification of the manuscript title and shall NOT be a part of the manuscript. It shall be kept by the student, department/division and the office of the college secretary with confidentiality. This form is to be submitted to the College Secretary’s Office together with CEAT Forms 1.1 to 1.3 at the start of the semester. See title in Example **3.5.8.**

### **Section 3.3. Title Page of Thesis and EIR Manuscripts**

**3.3.1.** The title page shall contain the following information:

- 3.3.1.1.** Full thesis or EIR title
- 3.3.1.2.** Statement of submission
- 3.3.1.3.** Full name of the author
- 3.3.1.4.** Statement of partial fulfillment of degree requirements
- 3.3.1.5.** Degree
- 3.3.1.6.** Major
- 3.3.1.7.** Date of manuscript submission
- 3.3.1.8.** Statement of manuscript content disclosure

**3.3.2.** All items found in the title page shall be presented in bold letters.

**3.3.3.** The title shall be in uppercase letters (except for scientific names), center-aligned in the page and shall be laid out in an inverse pyramid manner. The first line of the title shall be positioned at the topmost line of the page.

**3.3.4.** The statement of submission shall be in uppercase letters, center-aligned in the page and stated according to the format and layout illustrated in Pattern **3.3.5**. The first line in the statement of submission should be positioned about five (5) spaces below the name of the author.

**3.3.5. Pattern 3.3.5.**

SUBMITTED TO THE FACULTY OF THE  

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DEPARTMENT OR INSTITUTE<sup>4</sup>  
COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY  
UNIVERSITY OF THE PHILIPPINES LOS BAÑOS  
BY

**3.3.6.** For BSABE students, the blank line in Pattern **3.3.5.** shall correspond to the academic division where the author belongs. For consistency, the following names shall be used to indicate the divisions:

**3.3.6.1.** Agricultural, Food and Bioprocess Engineering Division

**3.3.6.2.** Agribiosystems Machinery and Power Engineering Division

**3.3.6.3.** Agrometeorology, Bio-Structures, and Environment Engineering Division

**3.3.6.4.** Land and Water Resources Engineering Division

**3.3.7.** For non-BSABE students, the blank line in Pattern **3.3.5.** shall be omitted in the statement of submission.

**3.3.8.** The author's name shall be written in full, first name first, followed by middle name (not middle initial), and then surname. It shall be presented in uppercase letters, center-aligned in the page, and in single line only. The author's name shall be positioned about five (5) spaces below the last line of the statement of submission.

**3.3.9.** The statement of partial fulfillment of degree requirements shall be in uppercase letters, center-aligned in the page and stated according to the format and layout illustrated in Pattern **3.3.10.** The first line in the statement of partial fulfillment of degree requirements should be positioned about five (5) spaces below the name of the author.

**3.3.10. Pattern 3.3.10.**

IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE  
DEGREE OF

**3.3.11.** The degree shall be written in full, (e.g. BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING not B.S. MECHANICAL ENGINEERING nor BS MECHANICAL ENG'G), in uppercase letters, center-aligned in the page, and preferably, in single line only. The degree should be positioned about three (3) spaces below the last line of the statement of partial fulfillment of degree requirements.

**3.3.12.** The major shall be written below the degree, in title case (i.e. the first letters of all significant words are capitalized), and center-aligned in the page. The major shall be enclosed in parenthesis and shall be introduced by the phrase "Major in" followed by the major.

**3.3.13.** For consistency, the following terms shall be used to indicate the major of the author:

**3.3.13.1.** Majors for BS Agricultural and Biosystems Engineering

- Agricultural, Food and Bioprocess Engineering
- Agribiosystems Machinery and Power Engineering
- Agrometeorology, Biostructures, and Environment Engineering

<sup>4</sup>Be sure to change this line according to your department or institute.

- Land and Water Resources Engineering

**3.3.13.2.** Majors for BS Chemical Engineering

- Sugar Technology
- Pulp and Paper Technology

**3.3.13.3.** Majors for BS Electrical Engineering

- Power Engineering
- Electronics Engineering
- Computer Engineering

**3.3.14.** The line for the major shall be omitted for students under the following curricula:

**3.3.14.1.** Bachelor of Science in Chemical Engineering (General Curriculum)

**3.3.14.2.** Bachelor of Science in Civil Engineering

**3.3.14.3.** Bachelor of Science in Industrial Engineering

**3.3.14.4.** Bachelor of Science in Mechanical Engineering

**3.3.14.5.** Bachelor of Science in Materials Engineering

**3.3.15.** The date of manuscript submission shall correspond to the month and year when the numerical grade of the student in their thesis, Innovationeering or EIR course is submitted by their adviser to the office of the college secretary as prescribed in Section **2.4.8**.

**3.3.16.** An additional portion on the title page should indicate who can have access to the manuscript (see Pattern **3.3.17.**). The instruction should adhere to the requirements of college librarians who will also be subjected to non-disclosure agreements. The author and the adviser should decide on the access level of the manuscript and shall sign on the space provided after the instruction. Only one access level shall be answered with “YES”. A dash “-” should be indicated in the other access levels.

**3.3.17.** Pattern and Example **3.3.17.**

This thesis/engineering industry research<sup>5</sup> manuscript can be accessed:

By the general public	YES
Only after consultation with the author/adviser <sup>6</sup>	-
Only by those bound by a confidentiality agreement	-

Signature of Student: \_\_\_\_\_

Signature of Adviser: \_\_\_\_\_

**3.3.18.** The title page shall have an imaginary page number.

<sup>5</sup>Choose appropriately

<sup>6</sup>If neither the author nor the adviser is unreachable, the department chair or unit head may grant access.

**3.3.19. Pattern 3.3.19. Note:** In this pattern, the number of spaces between word groups, as shown by the symbol ¶, is for illustration purposes only. The actual number of spaces will depend on length of the title and the presence/omission of the lines for divisions and majors. It should be emphasized, however, that the requirements of Sections 3.3.1. to 3.3.18. shall still be followed. See also Examples 3.3.20. to 3.3.22.

**TITLE IN UPPERCASE AND BOLD LETTERS  
INVERSE PYRAMID STYLE**

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SUBMITTED TO THE FACULTY OF THE

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DEPARTMENT OR INSTITUTE  
COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY  
UNIVERSITY OF THE PHILIPPINES LOS BAÑOS

BY

¶  
¶  
¶  
¶

AUTHOR'S FULL NAME

¶  
¶  
¶

IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE  
DEGREE OF

¶  
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¶  
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BACHELOR OF SCIENCE IN \_\_\_\_\_ ENGINEERING  
(Major in \_\_\_\_\_)

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¶  
¶

MONTH AND YEAR OF MANUSCRIPT SUBMISSION

¶  
¶

This thesis/engineering industry research manuscript can be accessed:

By the general public	YES
Only after consultation with the author/adviser	-
Only by those bound by a confidentiality agreement	-

Signature of Student: \_\_\_\_\_  
Signature of Adviser: \_\_\_\_\_

## 3.3.20. Example 3.3.20.: Title page for BSABE

<b>DETERMINATION OF SPRAY DRIFT CHARACTERISTICS OF A RONNIE BAUGH TRACTOR-TRAILED BOOM SPRAYER USING COMPUTATIONAL FLUID DYNAMICS</b>	
<b>SUBMITTED TO THE FACULTY OF THE AGRIBIOSYSTEMS MACHINERY AND POWER ENGINEERING DIVISION INSTITUTE OF AGRICULTURAL AND BIOSYSTEMS ENGINEERING COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY UNIVERSITY OF THE PHILIPPINES LOS BAÑOS BY</b>	
<b>ABEL FRANCIS BRIZUELA LAGUARDIA</b>	
<b>IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF</b>	
<b>BACHELOR OF SCIENCE IN AGRICULTURAL AND BIOSYSTEMS ENGINEERING (Major in Agribiosystems Machinery and Power Engineering)</b>	
<b>JUNE 2022</b>	
<b>This thesis manuscript can be accessed:</b>	
<b>By the general public</b>	<b>YES</b>
<b>Only after consultation with the author/adviser</b>	-
<b>Only by those bound by confidentiality agreement</b>	-
Signature of Student: _____	
Signature of Adviser: _____	

**3.3.21. Example 3.3.21.:** Title page for non-BSABE with Major

**PARAMETRIC STUDY ON THE DECOLORIZATION OF SUGAR  
FACTORY WASTEWATER VIA OXIDATION  
USING ELECTROLYZED WATER**

**SUBMITTED TO THE FACULTY OF THE  
DEPARTMENT OF CHEMICAL ENGINEERING  
COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY  
UNIVERSITY OF THE PHILIPPINES LOS BAÑOS  
BY**

**GJIANNE VERA LIT ROSAL**

**IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE  
DEGREE OF**

**BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING  
(Major in Sugar Technology)**

**JULY 2021**

**This thesis manuscript can be accessed:**

<b>By the general public</b>	<b>YES</b>
<b>Only after consultation with the author/adviser</b>	-
<b>Only by those bound by confidentiality agreement</b>	-

**Signature of Student:** \_\_\_\_\_  
**Signature of Adviser:** \_\_\_\_\_

**3.3.22.** Example **3.3.22.**: Title page for non-BSABE without Major

<p><b>LOW-FREQUENCY IMPEDANCE SPECTROSCOPY OF CEMENT PASTE MATRIX ADMIXED WITH AMORPHOUS NANOSILICA SYNTHESIZED FROM RICE HULL ASH</b></p>	
<p><b>SUBMITTED TO THE FACULTY OF THE DEPARTMENT OF CIVIL ENGINEERING COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY UNIVERSITY OF THE PHILIPPINES LOS BAÑOS BY</b></p>	
<p><b>JOSHUA TABOR DIMASAKA</b></p>	
<p><b>IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF</b></p>	
<p><b>BACHELOR OF SCIENCE IN CIVIL ENGINEERING</b></p>	
<p><b>DECEMBER 2017</b></p>	
<p><b>This thesis manuscript can be accessed:</b></p>	
<p><b>By the general public</b></p>	<p><b>-</b></p>
<p><b>Only after consultation with the author/adviser</b></p>	<p><b>-</b></p>
<p><b>Only by those bound by confidentiality agreement</b></p>	<p><b>YES</b></p>
<p><b>Signature of Student: _____</b></p>	
<p><b>Signature of Adviser: _____</b></p>	

**Section 3.4. Title Page of Innovationeering Manuscripts**

**3.4.1.** The title page shall contain the following information:

- 3.4.1.1.** Full Innovationeering title
- 3.4.1.2.** Statement of submission
- 3.4.1.3.** Full name of the authors arranged according to Section [2.6.3.](#)
- 3.4.1.4.** Degree of the authors
- 3.4.1.5.** Major of the authors (if any)
- 3.4.1.6.** Statement of partial fulfillment of degree requirements
- 3.4.1.7.** Date of manuscript submission



**3.4.1.8.** Statement of manuscript content disclosure

**3.4.2.** The title presentation for innovationeering manuscripts shall be similar to title layout and presentation for thesis and EIR manuscripts as prescribed in Sections **3.3.2.** and **3.3.3.**

**3.4.3.** The statement of submission shall be in uppercase letters, center-aligned in the page, and stated according to the format and layout illustrated in Pattern **3.4.4.** The first line in the statement of submission should be positioned about five (5) spaces below the last line of the title.

**3.4.4.** Pattern **3.4.4.**

SUBMITTED TO THE FACULTY OF THE  
COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY  
UNIVERSITY OF THE PHILIPPINES LOS BAÑOS  
BY

**3.4.5.** The names of the authors and their respective degree programs (and majors, if any) shall follow the format prescribed in Sections **2.6.3.**, **2.6.4.**, and **3.3.13.** The first author's name shall be positioned about five (5) spaces below the last line of the statement of submission.

**3.4.6.** The statement of partial fulfillment of degree requirements shall be in uppercase letters, center-aligned in the page, and stated according to the format and layout illustrated in Pattern **3.4.7.** The first line in the statement of partial fulfillment of degree requirements should be positioned about three (3) spaces below the last degree or major of the last author.

**3.4.7.** Pattern **3.4.7.**

IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS OF THEIR  
RESPECTIVE DEGREE PROGRAMS

**3.4.8.** The date of manuscript submission for Innovationeering manuscripts shall conform with the provisions stated in Section **3.3.15.** It shall be positioned about three (5) spaces below the statement of partial fulfillment of degree requirements.

**3.4.9.** The statement of manuscript content disclosure shall follow the format prescribed in Pattern and Example **3.4.10.** All authors and their adviser shall sign the statement of manuscript content disclosure.

**3.4.10.** Pattern and Example **3.4.10.**

This innovationeering manuscript can be accessed:

By the general public	YES
Only after consultation with the authors/adviser <sup>7</sup>	-
Only by those bound by a confidentiality agreement	-

Signature of Student1: \_\_\_\_\_  
Signature of Student2: \_\_\_\_\_  
Signature of Student3: \_\_\_\_\_  
Signature of Adviser: \_\_\_\_\_

**3.4.11.** The title page shall have an imaginary page number.

<sup>7</sup>If neither the authors nor the adviser is unreachable, the department chair or unit head may grant access.

**3.4.12. Pattern 3.4.12. Note:** In this pattern, the number of spaces between word groups, as shown by the symbol ¶, is for illustration purposes only. The actual number of spaces will depend on length of the title and the presence/omission of the lines for majors. It should be emphasized, however, that the requirements of Sections 3.4.1. to 3.4.11. shall still be followed. See also Example 3.4.13.

**TITLE IN UPPERCASE AND BOLD LETTERS**  
**INVERSE PYRAMID STYLE**  
 ¶  
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 ¶  
 ¶  
**SUBMITTED TO THE FACULTY OF THE**  
**COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY**  
**UNIVERSITY OF THE PHILIPPINES LOS BAÑOS**  
**BY**  
 ¶  
 ¶  
**AUTHOR 1 FULL NAME**  
**BACHELOR OF SCIENCE IN \_\_\_\_\_ ENGINEERING**  
**(Major in \_\_\_\_\_)**  
 ¶  
**AUTHOR 2 FULL NAME**  
**BACHELOR OF SCIENCE IN \_\_\_\_\_ ENGINEERING**  
**(Major in \_\_\_\_\_)**  
 ¶  
**AUTHOR 3 FULL NAME**  
**BACHELOR OF SCIENCE IN \_\_\_\_\_ ENGINEERING**  
**(Major in \_\_\_\_\_)**  
 ¶  
**IN PARTIAL FULFILLMENT OF THE**  
**REQUIREMENTS OF THEIR**  
**RESPECTIVE DEGREE PROGRAMS**  
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**¶MONTH AND YEAR OF MANUSCRIPT SUBMISSION**  
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**This innovatoneering manuscript can be accessed:**

<b>By the general public</b>	<b>YES</b>
<b>Only after consultation with the authors/adviser</b>	-
<b>Only by those bound by a confidentiality agreement</b>	-

**Signature of Student 1:** \_\_\_\_\_  
**Signature of Student 2:** \_\_\_\_\_  
**Signature of Student 3:** \_\_\_\_\_  
**Signature of Adviser:** \_\_\_\_\_

**3.4.13. Example 3.4.13.: Title page for Innovationeering Manuscripts**

**AN EXAMPLE OF AN INNOVATIONEERING MANUSCRIPT IN BOLD LETTERS  
INVERSE PYRAMID STYLE**

**SUBMITTED TO THE FACULTY OF THE  
COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY  
UNIVERSITY OF THE PHILIPPINES LOS BAÑOS  
BY**

**JUAN MENDOZA DELA CRUZ  
BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING  
(Major in Sugar Technology)**

**JOHN PAUL GONZALES REYES  
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING  
(Major in Electronics Engineering)**

**JAMES FLORES SANTOS  
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING**

**IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS OF THEIR  
RESPECTIVE DEGREE PROGRAMS**

**APRIL 2023**

**This innovationeering manuscript can be accessed:**

<b>By the general public</b>	<b>YES</b>
<b>Only after consultation with the authors/adviser</b>	-
<b>Only by those bound by a confidentiality agreement</b>	-

Signature of Student 1: \_\_\_\_\_  
Signature of Student 2: \_\_\_\_\_  
Signature of Student 3: \_\_\_\_\_  
Signature of Adviser: \_\_\_\_\_

**Section 3.5. Approval Pages**

**3.5.1.** The contents of the approval page shall be laid-out in such a way that all information shall be contained in one (1) page only. The title "APPROVAL PAGE" shall not appear anywhere in the page.

**3.5.2.** For innovationeering manuscripts, the number of approval pages shall correspond to the number of authors, i.e. each student shall have their own approval page. The approval pages shall be arranged according to the author sequence prescribed in Section [2.6.3](#). The approval page shall be signed by the signatories composed of the innovationeering guidance committee and the head of the unit where the author belongs.

**3.5.3.** The approval page shall be introduced by a paragraph stating that the manuscript is accepted and approved by a hierarchy of signatories. The said paragraph shall contain the following information, presented in uppercase and bold letters:

**3.5.3.1.** Full thesis, Innovationeering or EIR title

**3.5.3.2.** Full name of the author

**3.5.3.3.** Degree of the author

**3.5.4.** The first line of the introductory paragraph shall be indented 1.25 cm to the right. The paragraph shall be in double space and shall be written according to the format illustrated in Pattern **3.5.5**. See also Examples **3.5.7**. to **3.5.8**.

**3.5.5.** Pattern **3.5.5.**: For thesis and EIR manuscripts

The (thesis/engineering industry research manuscript) attached hereto, entitled “**THESIS or EIR TITLE**”, prepared and submitted by **AUTHOR’S FULL NAME** in partial fulfillment of the requirements for the degree of **DEGREE**, is hereby accepted.

**3.5.6.** Pattern **3.5.6.**: For innovationeering manuscripts

The innovationeering manuscript attached hereto, entitled “**INNOVATIONEERING TITLE**”, co-prepared and co-submitted by **AUTHOR 1 FULL NAME** in partial fulfillment of the requirements for the degree of **DEGREE 1**, is hereby accepted.

**3.5.7.** Example **3.5.7**.

The thesis attached hereto, entitled “**LOW FREQUENCY IMPEDANCE SPECTROSCOPY OF CEMENT PASTE MATRIX ADMIXED WITH AMORPHOUS NANOSILICA SYNTHESIZED FROM RICE HULL ASH**”, prepared and submitted by **JOSHUA TABOR DIMASAKA** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN CIVIL ENGINEERING**, is hereby accepted.

**3.5.8. Example 3.5.8.**

The engineering industry research manuscript attached hereto, entitled “**IMPROVEMENT OF GENERATOR ELECTRICAL MAINTENANCE TESTS AS PART OF THE MAJOR OVERHAUL PROCEDURE OF CALIRAYA HYDROELECTRIC POWER PLANT (CHEPP) UNIT 1**”, prepared and submitted by **RYAN RUSSEL LEUTERIO TALOSIG** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING**, is hereby accepted.

**3.5.9. Example 3.5.9.**

The innovationeering manuscript attached hereto, entitled “**AN EXAMPLE TITLE FOR AN INNOVATIONEERING MANUSCRIPT**”, co-prepared and co-submitted by **JUAN MENDOZA DELA CRUZ** in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING**, is hereby accepted.

**3.5.10.** The format and layout for the space where the signatories shall sign are illustrated in Pattern **3.5.11**.

**3.5.11. Pattern 3.5.11.**


---

**FULL NAME OF SIGNATORY**

Designation

Guidance Committee or Office

---

Date Signed

**3.5.12.** The name of the signatory shall be written in full (with middle initial) and in uppercase and bold letters. For consistency, titles like “Prof.”, “Engr.”, “Dr.”, “Mr.”, “Ph.D.”, etc, shall not be included in the signatory’s name.

**3.5.13.** For consistency, the following terms shall be used to indicate the designation of the signatory:

<b>3.5.13.1.</b> Member	for guidance committee members
<b>3.5.13.2.</b> Adviser and Chair	for advisers and guidance committee chairs
<b>3.5.13.3.</b> Co-Adviser	for co-advisers
<b>3.5.13.4.</b> Head	for IABE division heads
<b>3.5.13.5.</b> Chair	for department chairs
<b>3.5.13.6.</b> Director	for institute directors
<b>3.5.13.7.</b> Dean	for the college dean

**3.5.14.** The line above the name of the signatory shall be kept similar in length for all the signatories. If possible, the length of the said line should be equal to the length of the name of the signatory with the longest name. The name and designation of the signatory shall be center-aligned relative to this line.

**3.5.15.** To illustrate the format prescribed by the preceding paragraphs, Examples **3.5.16.** to **3.5.22.** should be considered.

**3.5.16.** Example **3.5.16.:** Panel Member

---

**MARITA NATIVIDAD T. DE LUMEN**

Member  
Guidance Committee

---

Date Signed

**3.5.17.** Example **3.5.17.:** Adviser

---

**RICHELLE G. ZAFRA**

Adviser and Chair  
Guidance Committee

---

Date Signed

**3.5.18.** Example **3.5.18.:** Co-Adviser

---

**MICHAEL VINCENT O. LAURIO**

Co-Adviser and Member  
Guidance Committee

---

Date Signed

**3.5.19.** Example **3.5.19.:** Division Head

---

**KEYNTY BOY V. MAGTOTO**

Head  
Agrometeorology, Biostructures and Environment  
Engineering Division

---

Date Signed

**3.5.20.** Example **3.5.20.:** Department Chair

---

**JOSEFA ANGELIE D. REVILLA**

Chair  
Department of Industrial Engineering

---

Date Signed

**3.5.21. Example 3.5.21.: Institute Director**

---

**ROGER A. LUYUN, JR.**  
Director  
Institute of Agricultural and Biosystems Engineering

---

Date Signed

**3.5.22. Example 3.5.22.: College Dean**

---

**ROSSANA MARIE C. AMONGO**  
Dean  
College of Engineering and Agro-industrial Technology

---

Date Signed

**3.5.23.** The names of the signatories shall be arranged and laid out in the page according to the format illustrated in Patterns **3.5.27.** to **3.5.34.** In rare instances when the name of the signatories are too long to be laid-out opposite to each other, the author is granted flexibility to introduce modifications to the approval page (e.g. reduce the font size to 11, slightly decrease the margins, etc.), provided that the lay-out is still maintained. NOTE: Visit <https://ceat.uplb.edu.ph/organization-chart/> and <https://ceat.uplb.edu.ph/faculty-staff/> (choose the appropriate unit) to see the full list of current CEAT administrators and faculty members.

**3.5.24.** In cases where the number of authors of Innovationeering manuscripts is less than three (3), the approval page shall be arranged and laid out according to Patterns **3.5.27.** to **3.5.30.**

**3.5.25.** The approval page shall have an imaginary page number.

**3.5.26.** The approval page shall be printed by the authors and signed by all the signatories using WET signatures. When submitting electronic copies of manuscripts, the signed hardcopy of the approval page shall be converted into an electronic format (i.e. scanned into a .pdf format) and shall be inserted to the electronic version of the manuscript to be submitted to academic units and libraries. See also Section **12.1** for the protocols for electronic submission.

**3.5.27. Pattern 3.5.27.: 3-Member Guidance Committee – BSABE**

The (thesis / engineering industry research manuscript) attached hereto, entitled “**THESIS or EIR TITLE**” prepared and submitted by **AUTHOR’S FULL NAME**” in partial fulfillment of the requirements for the degree of **DEGREE** is hereby accepted.

¶  
¶

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Adviser and Chair  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Head  
Academic Division

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Director  
Institute of Agricultural and Biosystems  
Engineering

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Dean  
College of Engineering and Agro-industrial Technology

\_\_\_\_\_  
Date Signed



**3.5.28.** Pattern **3.5.28.:** 3-Member Guidance Committee – non-BSABE

The (thesis / engineering industry research manuscript) attached hereto, entitled  
“**THESIS or EIR TITLE**” prepared and submitted by **AUTHOR’S FULL NAME**”  
in partial fulfillment of the requirements for the degree of **DEGREE** is hereby accepted.

¶  
¶

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Adviser and Chair  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Chair  
Department of \_\_\_\_\_ Engineering

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Dean  
College of Engineering and Agro-industrial Technology

\_\_\_\_\_  
Date Signed

**3.5.29. Pattern 3.5.29.: 4-Member Guidance Committee – BSABE**

The (thesis / engineering industry research manuscript) attached hereto, entitled “**THESIS or EIR TITLE**” prepared and submitted by **AUTHOR’S FULL NAME**” in partial fulfillment of the requirements for the degree of **DEGREE** is hereby accepted.

¶  
¶

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Adviser and Chair  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Head  
Academic Division

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Director  
Institute of Agricultural and Biosystems  
Engineering

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Dean  
College of Engineering and Agro-industrial Technology

\_\_\_\_\_  
Date Signed

**3.5.30. Pattern 3.5.30.: 4-Member Guidance Committee – non-BSABE**

The (thesis / engineering industry research manuscript) attached hereto, entitled  
“**THESIS or EIR TITLE**” prepared and submitted by **AUTHOR’S FULL NAME**”  
in partial fulfillment of the requirements for the degree of **DEGREE** is hereby accepted.

¶  
¶

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Adviser and Chair  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Chair  
Department of \_\_\_\_\_ Engineering

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Dean  
College of Engineering and Agro-industrial Technology

\_\_\_\_\_  
Date Signed

**3.5.31. Pattern 3.5.31.: 5-Member Guidance Committee – BSABE**

The (thesis / engineering industry research manuscript) attached hereto, entitled  
 “**THESIS or EIR TITLE**” prepared and submitted by **AUTHOR’S FULL NAME**” in  
 partial fulfillment of the requirements for the degree of **DEGREE** is hereby accepted.

¶  
 ¶

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
 Guidance Committee

\_\_\_\_\_  
 Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
 Guidance Committee

\_\_\_\_\_  
 Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
 Guidance Committee

\_\_\_\_\_  
 Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
 Guidance Committee

\_\_\_\_\_  
 Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Adviser and Chair  
 Guidance Committee

\_\_\_\_\_  
 Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Head  
 Academic Division

\_\_\_\_\_  
 Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Director  
 Institute of Agricultural and Biosystems  
 Engineering

\_\_\_\_\_  
 Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Dean  
 College of Engineering and Agro-industrial Technology

\_\_\_\_\_  
 Date Signed

**3.5.32. Pattern 3.5.32.: 5-Member Guidance Committee – non-BSABE**

The (thesis / engineering industry research manuscript) attached hereto, entitled "THESIS or EIR TITLE" prepared and submitted by AUTHOR'S FULL NAME" in partial fulfillment of the requirements for the degree of DEGREE is hereby accepted.

¶  
¶

\_\_\_\_\_  
FULL NAME OF SIGNATORY

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
FULL NAME OF SIGNATORY

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
FULL NAME OF SIGNATORY

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
FULL NAME OF SIGNATORY

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
FULL NAME OF SIGNATORY

Adviser and Chair  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
FULL NAME OF SIGNATORY

Chair  
Department of \_\_\_\_\_ Engineering

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
FULL NAME OF SIGNATORY

Dean  
College of Engineering and Agro-industrial Technology

\_\_\_\_\_  
Date Signed

**3.5.33. Pattern 3.5.33.: Innovationeering Guidance Committee – BSABE**

The innovationeering manuscript attached hereto, entitled “**INNOVATIONEERING TITLE**,” co-prepared and co-submitted by **AUTHOR’S FULL NAME**” in partial fulfillment of the requirements for the degree of **DEGREE**, is hereby accepted.

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\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

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**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

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Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Member  
Guidance Committee

\_\_\_\_\_  
Date Signed

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**FULL NAME OF SIGNATORY**

Adviser and Chair  
Guidance Committee

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Head  
Academic Division

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Director  
Institute of Agricultural and Biosystems  
Engineering

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
**FULL NAME OF SIGNATORY**

Dean  
College of Engineering and Agro-industrial Technology

\_\_\_\_\_  
Date Signed

**3.5.34. Pattern 3.5.34.: Innovationeering Guidance Committee – non-BSABE**

The innovationeering manuscript attached hereto, entitled "INNOVATIONEERING TITLE," co-prepared and co-submitted by **AUTHOR'S FULL NAME** in partial fulfillment of the requirements for the degree of **DEGREE**, is hereby accepted.

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<p>_____  <b>FULL NAME OF SIGNATORY</b>          Member          Guidance Committee</p> <p>_____          Date Signed</p>	<p>_____  <b>FULL NAME OF SIGNATORY</b>          Member          Guidance Committee</p> <p>_____          Date Signed</p>
<p>_____  <b>FULL NAME OF SIGNATORY</b>          Member          Guidance Committee</p> <p>_____          Date Signed</p>	<p>_____  <b>FULL NAME OF SIGNATORY</b>          Member          Guidance Committee</p> <p>_____          Date Signed</p>
<p>_____  <b>FULL NAME OF SIGNATORY</b>          Adviser and Chair          Guidance Committee</p> <p>_____          Date Signed</p>	
<p>_____  <b>FULL NAME OF SIGNATORY</b>          Chair          Department of _____ Engineering</p> <p>_____          Date Signed</p>	
<p>_____  <b>FULL NAME OF SIGNATORY</b>          Dean          College of Engineering and Agro-industrial Technology</p> <p>_____          Date Signed</p>	

**Section 3.6. Biographical Sketches**

**3.6.1.** For innovationeering manuscripts, the number of biographical sketches shall correspond to the number of authors, i.e. each student shall have their own biographical sketch. The biographical sketches shall be arranged according to the author sequence prescribed in Section **2.6.3.**

**3.6.2.** The title "BIOGRAPHICAL SKETCH" shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters.

**3.6.3.** Three (3) spaces shall be maintained between the title and the first line of the first paragraph. The lines shall be double spaced and no spacing between paragraphs.


**3.6.4.** The biographical sketch shall be limited to one (1) page only.

**3.6.5.** Preferably, the biographical sketch should be in English and written in the third person point of view.

**3.6.6.** A colored, 1/4 headshot, studio photo of the author, wearing corporate attire (e.g. for male: coat and tie; for female: blouse and blazer) with white background, should be included in the biographical sketch. The photo shall be bordered by solid, black lines (lineweight = 1.5 pt) on all sides, be 7.5-cm high and 5.0-cm wide and shall be text-wrapped at the upper right portion of the first paragraph of the biographical sketch (see Pattern **3.6.8.**).

**3.6.7.** The full name of the author, in uppercase letters, shall appear four (4) spaces below the last line of the last paragraph. Such name shall be flushed to the right margin. The author shall sign above their name attesting to the accuracy of the information included in the biographical sketch.

**3.6.8.** Pattern and Example **3.6.8.**

<b>BIOGRAPHICAL SKETCH</b>	
¶ ¶ ¶	
<p>College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering.</p> <p>College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering.</p> <p>College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering..</p>	
¶ ¶	
<p><i>Signature</i> ¶</p> <p>AUTHOR'S FULL NAME</p>	



## Section 3.7. Acknowledgment

**3.7.1.** The title “ACKNOWLEDGMENT” shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters.

**3.7.2.** Three (3) spaces shall be maintained between the title and the first line of the first paragraph.

**3.7.3.** There is no prescribed line spacing for this section but the font size and page alignment (justified) shall be maintained.

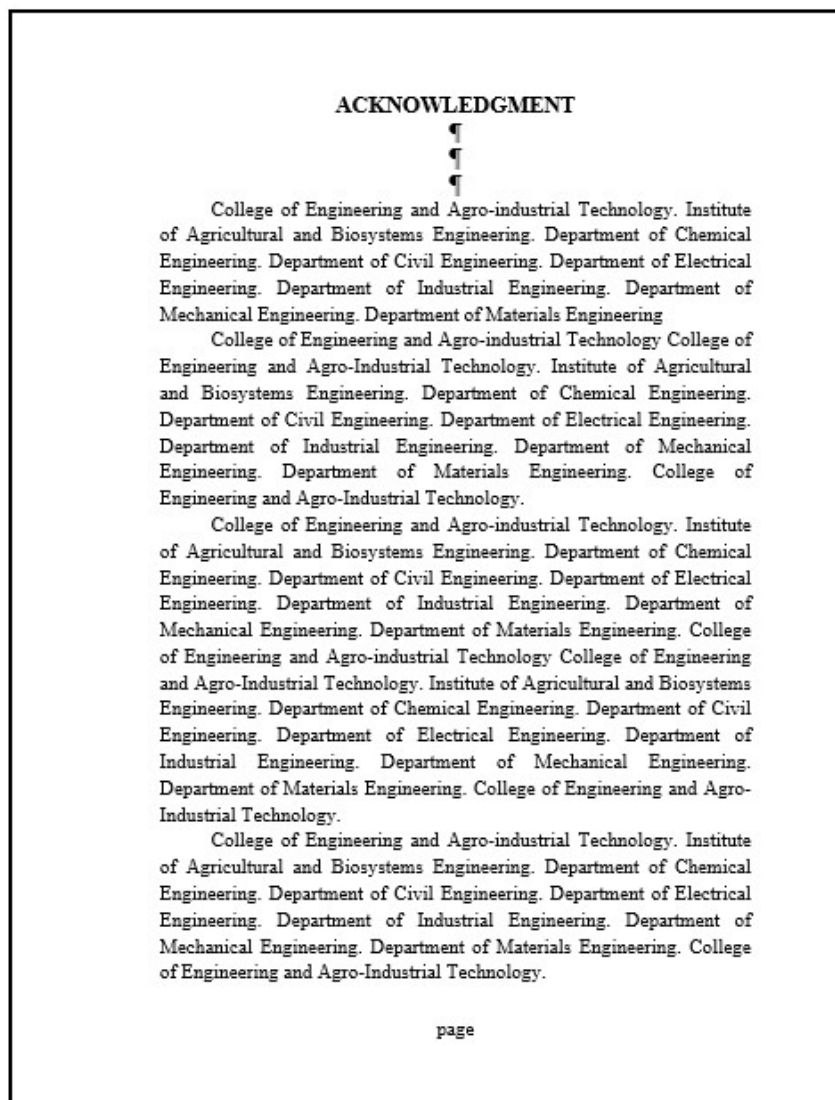
**3.7.4.** The acknowledgment shall be limited to five (5) pages only.

**3.7.5.** Preferably, the acknowledgment should be in pure English. However, Filipino words may be used provided that they will be italicized or enclosed in quotations marks as they appear in the text. If possible, bold and underlined words or phrases shall not appear in the body of the acknowledgment.

**3.7.6.** The acknowledgment may be written in first or third person point of view.

**3.7.7.** Pictures or figures of any kind are prohibited in the acknowledgment. Likewise, inappropriate colloquial words are not permitted.

**3.7.8.** Pattern **3.7.8.**



## Section 3.8. Table of Contents

**3.8.1.** The title “TABLE OF CONTENTS” shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters.

**3.8.2.** Two (2) columns shall be created where the items and their corresponding page numbers are listed. The first column shall contain the list of the items to be included and such column shall not contain any heading. All the contents of the first column shall be flushed to the left margin.

**3.8.3.** The second column shall contain the heading “PAGE”, underlined and in uppercase letters. This heading shall be four (4) spaces below the line containing the title “TABLE OF CONTENTS.”

**3.8.4.** The first item in the list (e.g. TITLE PAGE) shall be three (3) spaces below the line containing the heading “PAGE”.

**3.8.5.** Dots or dashes connecting the items to their corresponding page numbers shall be omitted.

**3.8.6.** Page numbers shall be listed under and “centered” relative to the heading “PAGE” (see Example 3.8.7.).

**3.8.7.** Example 3.8.7.

<b>TABLE OF CONTENTS</b>	
	¶ ¶ ¶
	<u>PAGE</u>
	¶
TITLE PAGE	i
APPROVAL PAGE	ii
BIOGRAPHICAL SKETCH	iii

**3.8.8.** Double spaces shall be maintained between entries but single space should be maintained within entries.

**3.8.9.** The headings and sections to be listed in the table of contents shall have the same case formatting as what is found and prescribed in the text.

**3.8.10.** Major subsections shall be indented 1.25 cm to the right reckoned from the main heading. Likewise, minor subsections shall be indented 1.25 cm to the right relative to the major subsection. Paragraph headings shall be indented 1.25 cm to the right relative to the minor subsection.

**3.8.11. Example 3.8.11.**

REVIEW OF LITERATURE	10
2.1 Pumps	10
2.2 Performance Testing of Pump Set Components	17
2.2.1 Pump Efficiency	17
2.2.2 Measurement and Instrumentation	19
Head measurement	19

**3.8.12.** Usually, the “TABLE OF CONTENTS” exceeds one page, and in such a case, the list shall be continued in succeeding pages and the line containing the heading “PAGE” shall still appear in each page.

**3.8.13. Example 3.8.13.**

	<u>PAGE</u>
	¶
	¶
3.12 Statistical Analysis	29
4. RESULTS AND DISCUSSION	30
4.1 Load Cell and Circuit Calibration	30
4.2 Comparison of Penetrometer Readings	33

**3.8.14.** Only the title “TABLE OF CONTENTS” shall be bold and the remaining entries and page numbers shall be in their regular formatting.

### **Section 3.9. List of Tables, Figures, Appendices, Appendix Tables, and Appendix Figures**

**3.9.1.** Tables and figures presented in the main text shall appear in the “LIST OF TABLES” and “LIST OF FIGURES”, respectively.

**3.9.2.** Tables and figures considered to be part of the appendices shall be listed in the “LIST OF APPENDIX TABLES” and “LIST OF APPENDIX FIGURES”, respectively. Likewise, all appendices shall be listed under the “LIST OF APPENDICES.”

**3.9.3.** The five lists enumerated in the preceding paragraphs have similar formats which are stated in subsequent paragraphs.

**3.9.4.** The title of the list (e.g. “LIST OF TABLES”) shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters.

**3.9.5.** Three columns shall be created where the items and their corresponding page numbers are listed. The first column shall contain the number (for tables and figures) or letter (for appendices) of the items to be included. This column shall contain the appropriate heading (“TABLE”, “FIGURE”, “APPENDIX”, “APPENDIX TABLE”, “APPENDIX FIGURE”), underscored and in uppercase letters.

**3.9.6.** The second column shall contain the list of the items to be included and such column shall not contain any heading. All the contents of the second column shall be flushed to the left margin of that column.

**3.9.7.** The third column shall contain the heading “PAGE”, underscored and in uppercase letters. The headings shall be four (4) spaces below the line containing the title of the list.

**3.9.8.** The first item in the list shall be three (3) spaces below the line containing the column headings (see Example 3.9.9.)

**3.9.9.** Example 3.9.9.

<b>LIST OF TABLES</b>		
<u>TABLE</u>		<u>PAGE</u>
1-1	Visual description of the three sampling sites	30
1-2	Analysis of variance table	40
2-3	Water quality analysis of the three sampling sites	46

**3.9.10.** The first item in the list shall be three (3) spaces below the line containing the column headings.

**3.9.11.** Table or figure numbers or appendix letters shall be listed under and “centered” relative to their respective headings. Likewise, page numbers shall be listed under and “centered” relative to the heading “PAGE”.

**3.9.12.** Double spaces shall be maintained between entries but single space should be maintained within entries.

**3.9.13.** In cases where the items or titles are too long, they shall be cut in such a way that the top line is always longer than the succeeding lines.

**3.9.14.** The headings and sections to be listed in the list shall have the same case formatting as what is found and prescribed in the text (see Example 3.9.15.)

**3.9.15. Example 3.9.15.**

<u>APPENDIX</u>		<u>PAGE</u>
A	Details of Statistical Analysis	57
.	.	.
H	Computations for Power Consumption	89
I	Procedure for Moisture Content Determination	91

page

**3.9.16.** In cases where the list exceeds one page, it shall be continued in succeeding pages and the line containing the column headings shall still appear in each page (see Example 3.9.17.)

**3.9.17. Example 3.9.17.**

<u>APPENDIX</u>		<u>PAGE</u>
<u>FIGURE</u>		
21	Proposed lay-out of the greenhouse plots	57
22	Instruments used	91

**3.9.18.** Only the list titles shall be bold and the remaining entries and page numbers shall be in their regular formatting.

**Section 3.10. Acronyms and Abbreviations**

**3.10.1.** This preliminary section shall be created only if the combined number of acronyms and abbreviations to be included in the list is at least five (5). If the number is below five, it is recommended that the items are defined instead in the body of the main text, specifically in the sections where they were first introduced or mentioned.

**3.10.2.** Symbols used to represent variables and constants in equations shall not be included in the list of acronyms and abbreviations. Variables and constants are defined according to the format prescribed in Section 7.2.

**3.10.3.** There shall only be one list of acronyms and abbreviations, i.e. they shall not be segregated into 'Acronyms' or 'Abbreviations'. The items shall be listed alphabetically, regardless if the item starts with an uppercase letter or a lowercase letter.

**3.10.4.** The title “ACRONYMS AND ABBREVIATIONS” shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters.

**3.10.5.** Two (2) columns shall be created where the acronyms/abbreviations and their corresponding meanings are listed.

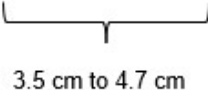

**3.10.6.** The first column shall contain the alphabetical list of acronyms and abbreviations. When reckoned from the left margin of the page, the width of the first column should be around 3.5 cm to 4.7 cm.

**3.10.7.** The second column shall contain the corresponding meanings of the acronyms/abbreviations. When reckoned from the right edge of the first column, the width of the second column should be around 10.0 cm to 11.2 cm.

**3.10.8.** The first entry in the list shall start four (4) spaces below the title “ACRONYMS AND ABBREVIATIONS”. All entries should be flushed to the left side of the column. Double spaces shall be maintained between entries but single space should be maintained within entries.

**3.10.9.** Only the title shall be bold and the other entries shall be in their regular formatting.

**3.10.10.** Example **3.10.10.**

<b>ACRONYMS AND ABBREVIATIONS</b>	
AMTEC	Agricultural Machinery Testing and Evaluation Center
BIOMECH	Center for Agri-Fisheries and Biosystems Mechanization
.	.
.	.
.	.
CEAT	College of Engineering and Agro-industrial Technology
DChE	Department of Chemical Engineering
UPLB	University of the Philippines Los Baños
 3.5 cm to 4.7 cm	 10.0 cm to 11.2 cm

## Section 3.11. Abstract

**3.11.1.** The title “ABSTRACT” shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters.

**3.11.2.** The abstract shall be introduced by a paragraph describing the publishing details of the manuscript. Such paragraph shall contain the following information, with their corresponding formatting:

**3.11.2.1.** (For thesis and EIR manuscripts) Author’s full name (surname first, followed by first name and middle name; in uppercase and bold)

**3.11.2.2.** (For Innovateering manuscripts) Full name of the authors arranged according to Section **2.6.3.** (surname first, followed by first name and middle name; in uppercase and bold). The author names shall be separated by period, followed by a space

**3.11.2.3.** College

**3.11.2.4.** University

**3.11.2.5.** Month and year of manuscript submission

**3.11.2.6.** Full title of thesis, Innovateering or EIR (in title case and bold with complete meaning of acronyms written on the FRONT COVER followed by the acronym written inside an open and close parenthesis)

**3.11.3.** The items enumerated in Section **3.11.2.** shall appear according to their order in the list. Furthermore, they shall be separated by period, followed by a space.

**3.11.4.** The first line of the introductory paragraph shall be flushed to the left margin of the page and positioned four (4) spaces below the title “ABSTRACT”. The paragraph shall be in single space and shall be written according to the format illustrated in Patterns **3.11.5.** and **3.11.9.**

**3.11.5.** Pattern **3.11.5.:** Thesis and EIR Manuscripts

**AUTHOR’S NAME (LAST, FIRST MIDDLE).** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. Month and Year of Manuscript Submission. **Title of Thesis or EIR Manuscript.**

**3.11.6.** Example **3.11.6.:** Thesis

**NOLASCO, LEONARD MARIUS VITAL.** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. August 2022. **Development of a Cartesian Robot Head Module for Precision Seeding of Lettuce (*Lactuca sativa* L.).**

**3.11.7.** Example **3.11.7.:** EIR

**GESTIADA, ROSELLE USMAN.** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. January 2022. **Workplace Improvement Through 5S Implementation in the Sewage Treatment Plant of Carmelray Industrial Park II in Calamba City, Laguna, Philippines**

**3.11.8. Example 3.11.8.: EIR**

**CARLOS, ARIEL ANGELLO ASUNCION.** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. May 2020. **Increasing the Utilization of Wirebond Machines at the MLF Production Line of Amkor Technology Philippines, Biñan City, Laguna**

**3.11.9. Pattern 3.11.9.: Innovationeering**

**AUTHOR 1 NAME (LAST, FIRST MIDDLE). AUTHOR 2 NAME (LAST, FIRST MIDDLE). AUTHOR 3 NAME (LAST, FIRST MIDDLE).** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. Month and Year of Manuscript Submission. **Title of Innovationeering Manuscript.**

**3.11.10. Example 3.11.10.: Innovationeering**

**DELA CRUZ, JUAN MENDOZA. REYES, JOHN PAUL GONZALES. SANTOS, JAMES FLORES.** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. 2023. **An Example Title of an Innovationeering Manuscript.**

**3.11.11.** The name of the major adviser (first, middle initial, last), in title case and flushed in the left margin of the page, shall be indicated three (3) spaces below the introductory paragraph. Titles like “Prof.,” “Engr.,” “Dr.” shall be excluded in the adviser’s full name. The name shall be introduced by the phrase “Major Adviser:”.

**3.11.12.** In the case of a ‘co-advised’ work, the name of the co-adviser shall be formatted similar to the format of the major adviser’s name (prescribed in Section [3.11.11.](#)). However, the co-adviser’s name shall be introduced by the phrase “Co-Adviser:” and is positioned below the name of the major adviser (see Pattern [3.11.15.](#)).

**3.11.13.** The abstract shall not be more than 250 words and shall be written in third person point of view.

**3.11.14.** The abstract shall be single-spaced and limited to one paragraph only. The first line of the paragraph shall be indented 1.25 cm to the right and shall start three (3) spaces below the line containing the name of the major adviser or co-adviser (if any).



3.11.15. Pattern 3.11.15.: Thesis or EIR

**ABSTRACT**

¶

¶

¶

**AUTHOR'S NAME (LAST, FIRST MIDDLE).** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. Month and Year of Manuscript Submission. **Title of Thesis or EIR Manuscript.**

¶

¶

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

Co-Adviser:

¶

¶

College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering. College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering. College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering.

page

3.11.16. Pattern 3.11.16.: Innovateering

**ABSTRACT**



**AUTHOR 1 NAME (LAST, FIRST MIDDLE). AUTHOR 2 NAME (LAST, FIRST MIDDLE). AUTHOR 3 NAME (LAST, FIRST MIDDLE).** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. Month and Year of Manuscript Submission. **Title of the Innovateering Manuscript.**



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

College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering. College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering. College of Engineering and Agro-industrial Technology. Institute of Agricultural and Biosystems Engineering. Department of Chemical Engineering. Department of Civil Engineering. Department of Electrical Engineering. Department of Industrial Engineering. Department of Mechanical Engineering. Department of Materials Engineering.

## 3.11.17. Example 3.11.17.

## ABSTRACT

**DIMASAKA, JOSHUA TABOR.** College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños. December 2017. **Low Frequency Impedance Spectroscopy of Cement Paste Matrix with Amorphous Nanosilica Synthesized from Rice Hull Ash.**

Major Adviser: Marish S. Madlangbayan

In this paper, the complex impedance spectroscopy was applied to investigate the hydrated cement paste matrix with amorphous nanosilica synthesized from rice hull ash as an admixture against chloride ingress. In recent years, the incorporation of agro-industrial by-products such as the rice hull ash to construction materials has gained interest for creating sustainable, low-cost, and resilient housing. Using low frequency impedance spectroscopy from 100 kHz to 20 MHz, the electrical responses corresponded to the necessary pozzolanic reactions growing from the effect of nanosilica implied by the alternating current conductivity spectra of the samples as the hydration proceeded. Using the Nyquist, Bode, and Cole-Cole plots, an equivalent circuit modelling was employed to characterize the formation of pores and hydrated compounds as potential paths of chloride ingress in the matrix mesostructure. Derived from the Cole-Cole plot, the capacitance was found to be maximum while the resistance was minimum for the sample with 2.0 % nanosilica at 28-day curing period. The trends in electrical spectra generally agreed with the quantitative phase analyses of diffractograms and peak analyses of infrared spectra from 700 to 4000  $\text{cm}^{-1}$ .

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# Article 4

## Textual Presentation

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### Section 4.1. General Guidelines

**4.1.1.** As a general rule, the discussions in the main text (i.e. INTRODUCTION to RECOMMENDATIONS) shall be written in the third person point of view.

**4.1.2.** The first line of the paragraph shall be indented 1.25 cm inch to the right. The paragraph shall be aligned in both left and right margins (justified). Double spaces shall be maintained between lines and between paragraphs.

**4.1.3.** To have a neat presentation of ideas, unnecessary marks and symbols in paragraphs shall be avoided. An underscore (underline) shall not be used when defining terms and when emphasizing ideas.

### Section 4.2. Text Structure

**4.2.1.** If possible, only three levels of subsections (major subsection, minor subsection and paragraph headings) should be maintained.

**4.2.2.** The major subsection shall be positioned at the center of the page, in bold letters, and with the first letter of all significant words capitalized. If the major subsection is composed of five or more words, it shall be arranged in an inverted pyramid form, in single space. Four (4) spaces shall be maintained between the main heading and the first line of the major subsection.

**4.2.3.** The minor subsection shall be placed three (3) spaces below the major subsection. It shall be positioned at the left side of the page, in bold letters, with the first letter of all significant words capitalized. When it runs more than half the page, it shall be cut off, with the longer line at the top, and flush to the left margin in single space (see Example [4.2.10.](#)).

**4.2.4.** Paragraph headings shall be indented 1.25 cm inch to the right followed by a period. The paragraph immediately follows after two (2) spaces.

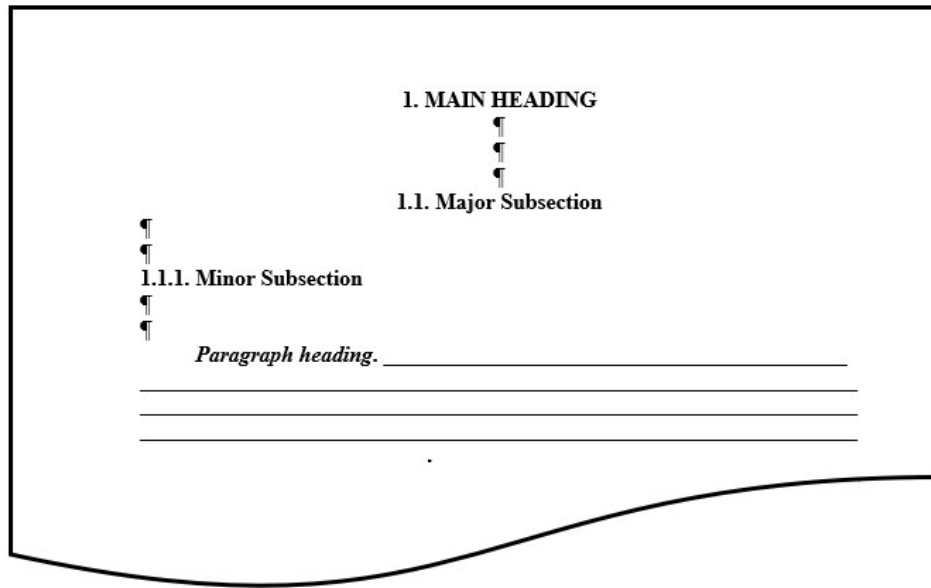
**4.2.5.** Paragraph headings shall be bold and *italicized* with only the first letter of the first word capitalized (sentence case).

**4.2.6.** The paragraph heading shall be three (3) spaces below the minor subsection.

**4.2.7.** The main headings, major subsections, and minor subsections are numbered according to the format presented in Sections [4.3](#) and [4.4](#). Paragraph headings are unnumbered.

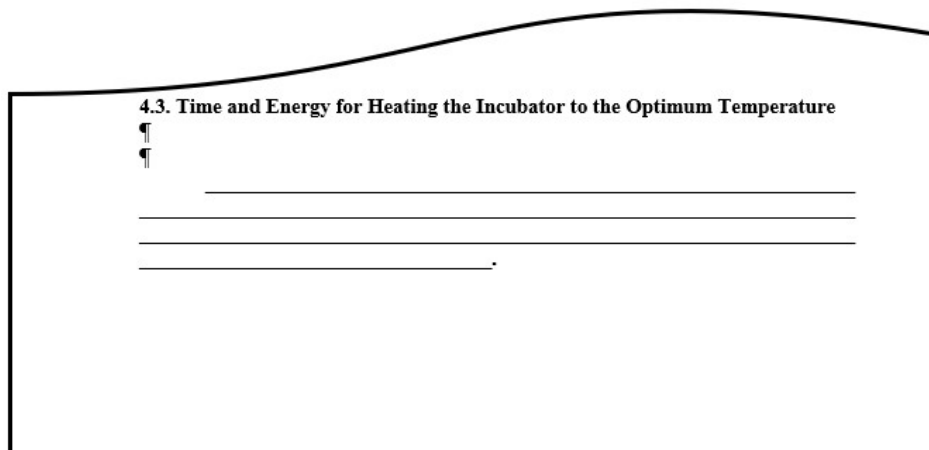
**4.2.8.** To fully illustrate the format concerning textual presentation, the following structure in Pattern [4.2.9.](#) shall be adopted throughout the text:

**4.2.9. Pattern 4.2.9.**

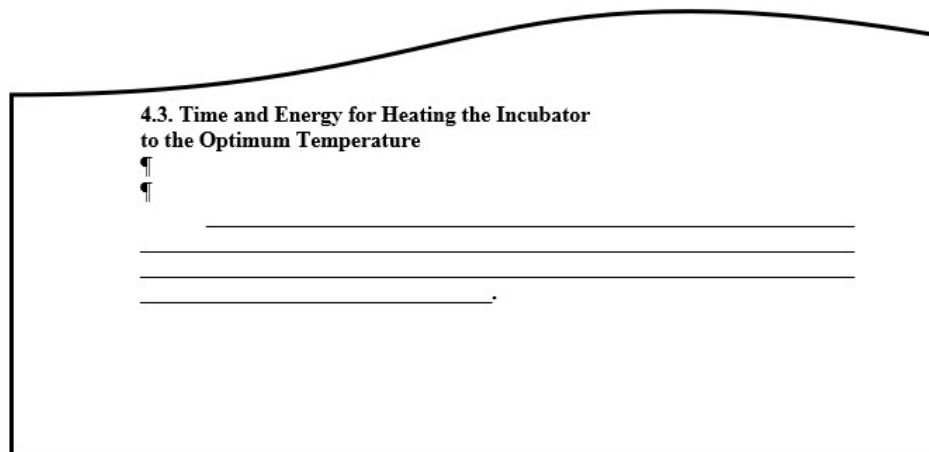


**4.2.10. Example 4.2.10.**

***Original***



***Preferred***



### Section 4.3. Main Heading

**4.3.1.** The preferred main headings for thesis and EIR manuscripts correspond to the different chapters of the main text. These include:

- 4.3.1.1.** 1. INTRODUCTION
- 4.3.1.2.** 2. REVIEW OF LITERATURE
- 4.3.1.3.** 3. MATERIALS AND METHODS
- 4.3.1.4.** 4. RESULTS AND DISCUSSION
- 4.3.1.5.** 5. SUMMARY AND CONCLUSION
- 4.3.1.6.** 6. RECOMMENDATIONS
- 4.3.1.7.** 7. REFERENCES

**4.3.2.** For Innovationeering manuscripts, the preferred main headings are, but not limited to:

- 4.3.2.1.** 1. INTRODUCTION
- 4.3.2.2.** 2. REVIEW OF LITERATURE or THEORETICAL BACKGROUND or PRIOR ART SEARCH
- 4.3.2.3.** 3. METHODOLOGY
- 4.3.2.4.** 4. RESULTS AND DISCUSSION
- 4.3.2.5.** 5. SUMMARY AND CONCLUSION
- 4.3.2.6.** 6. RECOMMENDATIONS
- 4.3.2.7.** 7. REFERENCES

**4.3.3.** Each chapter shall be started on a new page, regardless of the space left on the previous page.

**4.3.4.** The main headings shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters. In addition, main headings should be arranged according to the list in Section [4.3.1.](#)

### Section 4.4. Major Subsection

**4.4.1.** For all manuscripts, the preferred major subsections for the INTRODUCTION are, but not limited to:

- 4.4.1.1.** 1.1. Background of the Study
- 4.4.1.2.** 1.2. Significance of the Study
- 4.4.1.3.** 1.3. Objectives of the Study
- 4.4.1.4.** 1.4. Scope and Limitations of the Study
- 4.4.1.5.** 1.5. Time and Place of the Study

**4.4.2.** “Statement of the Problem” can also be included in the INTRODUCTION.

**4.4.3.** For EIR manuscripts, the following example major subsections may be included under appropriate chapters or main headings (as deemed necessary by the author or the guidance committee):

- 4.4.3.1.** Description of the EIR Site
- 4.4.3.2.** Activities Undertaken During the EIR
- 4.4.3.3.** Technical Knowledge and Experiences Gained

**4.4.3.4.** Problems Encountered

**4.4.3.5.** *Other major subsections relevant to the EIR topic*

**4.4.4.** For Innovationeering manuscripts, the preferred major subsections for the METHODOLOGY are, but not limited to:

**4.4.4.1.** 3.1. Market Feasibility Assessment

**4.4.4.2.** 3.2. Technical Feasibility Assessment

**4.4.4.3.** 3.3. Financial Feasibility Assessment

**4.4.5.** For Innovationeering manuscripts, the preferred major subsections for the RESULTS AND DISCUSSION are, but not limited to:

**4.4.5.1.** 4.1. Market Feasibility Assessment

**4.4.5.2.** 4.2. Technical Feasibility Assessment

**4.4.5.3.** 4.3. Financial Feasibility Assessment

**4.4.5.4.** 4.4. Organizational Management

**4.4.6.** Major subsections should be numbered according to the list in Section [4.4.1](#). Major subsections vary depending on the chapter where they belong. However, they shall be formatted according to the provisions of this article.

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## Article 5

# Table Presentation

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### Section 5.1. Table Structure and Format

**5.1.1.** To fully illustrate the format concerning table presentation, the table structure in Pattern **5.1.2.** shall be adopted throughout the manuscript:

**5.1.2.** Pattern **5.1.2.**

FIRST LEVEL HEADING	FIRST LEVEL HEADING (unit)	FIRST LEVEL HEADING		
		Second Level Heading		Second Level Heading (unit)
		third level heading (unit)	third level heading (unit)	
Row Heading 1				
Row Heading 2				
Row Heading 3				
Row Heading 4				
Row Heading 5				

**5.1.3.** Tables shall not contain side boxes, instead, they shall be presented with single solid lines (lineweight = 1 pt) as top and bottom borders.

**5.1.4.** The use of too many lines in the table should be avoided. Single solid horizontal lines should be used to separate the different rows and to separate the headings from the entries.

**5.1.5.** First level headings shall be in uppercase letters. Significant words in the second level headings shall have their first letters capitalized. All third level headings shall have lowercase letters except for proper nouns and acronyms. Dimensions and units are exceptions to these rules, i.e. they shall be presented in their proper formats and symbols, enclosed in parentheses (see Article **11**).



## Section 5.2. Table Number and Title

**5.2.1.** Tables shall be numbered consistently and continuously, independent of the numbering of figures and the numbering of equations.

**5.2.2.** Table numbers are composed of two numbers separated by a dash. The first number corresponds to the number of the chapter where the table belongs while the second number corresponds to the number of the table as it appears in the chapter.

**5.2.3.** Table titles shall be preceded by the label “Table X-X” (not “Tab. X-X”) followed by a period. The title immediately follows after two (2) spaces. Similarly, tables considered as appendix tables shall be continuously and consistently labelled as “Appendix Table \_\_\_\_.”

**5.2.4.** The table title shall be placed at the top of the table and shall be in sentence case (i.e. only the first letter of the first word is capitalized, and the whole title is followed by a period). A single space shall be maintained between the last line of the table title and the top line border of the table.

**5.2.5.** The table title shall be positioned relative to the page. For consistency, the table title, including the label “Table X-X.” shall be aligned to the left margin.

**5.2.6.** If the title length exceeds the page width, the title shall be cut off, and the remaining part is aligned to the start of the label, in single space.

**5.2.7.** Example 5.2.7.

Table 4-6. Hourly power consumption of different incubator components using two methods of incubation.

COMPONENT	CONVENTIONAL		SOLAR AIDED	
	Nominal Consumption (kWh)	Actual Consumption (kWh)	Nominal Consumption (kWh)	Actual Consumption (kWh)

## Section 5.3. Long Tables

**5.3.1.** As a general recommendation, long tables should be used sparingly in the main text. Instead, they should be included in the appendix. If possible, only significant data should be included in a table used for discussion. The reader may be referred to the appendix for details.

**5.3.2.** In this section, a long vertical table is defined as a table which has a total height exceeding the allowable text height (paper height less top and bottom margins) in a page. On the other hand, a long horizontal table is a table which has a total width exceeding the allowable text width (paper width less left and right margins) in a page.

**5.3.3.** In titling continued long vertical and horizontal tables, there is no need to indicate the table title, instead, use “Table X-X continued . . .” or “Appendix Table \_\_\_\_ continued . . .” However, table headings with proper heading and border formats shall be provided (see Example 5.3.4. for vertical table.)

**5.3.4. Example 5.3.4.**

Appendix Table 4. Raw and computed data for ventilation rate calculation.

DATE	TIME	AMBIENT				POULTRY HOUSE			
		Dry Bulb (°C)	Wet Bulb (°C)	RH (%)	Enthalpy (kJ/kg)	Ave Temp, (°C)	Ave RH (%)	Enthalpy (kJ/kg)	Specific Volume (m <sup>3</sup> /kg)
24-Aug-07	7:00 PM	29.0	25.0	72.6	76.32	38.4	62.1	108.16	0.921
24-Aug-07	8:00 PM	28.5	24.0	69.1	72.19	38.2	57.5	102.56	0.918

Appendix Table 4 continued . . .

DATE	TIME	AMBIENT				POULTRY HOUSE			
		Dry Bulb (°C)	Wet Bulb (°C)	RH (%)	Enthalpy (kJ/kg)	Ave Temp, (°C)	Ave RH (%)	Enthalpy (kJ/kg)	Specific Volume (m <sup>3</sup> /kg)
25-Aug-07	11:00 PM	26.5	23.0	74.5	68.30	38.5	60.3	106.31	0.920
25-Aug-07	12:00 PM	26.0	23.0	77.7	68.32	38.3	60.9	106.5	0.920

**5.3.5.** For long horizontal tables, the author may opt to present the table in a landscape page or to cut the table so that it will be accommodated in two or more portrait pages.

**5.3.6.** If a long horizontal table is cut, it should be done in way so that the resulting table widths are approximately similar. In addition, row headings shall be retained in the continued portions of the table (see Example **5.3.7.**).

**5.3.7. Example 5.3.7.**

Table Z-Z. Position and orientation of a long horizontal table in a portrait page.

FIRST LEVEL HEADING 1	FIRST LEVEL HEADING 2	FIRST LEVEL HEADING 3	FIRST LEVEL HEADING 4
Row Heading 1			
Row Heading 2			
Row Heading 3			
Row Heading 4			
Row Heading 5			

Table Z-Z continued . . .

FIRST LEVEL HEADING 1	FIRST LEVEL HEADING 5	FIRST LEVEL HEADING 6	FIRST LEVEL HEADING 7
Row Heading 1			
Row Heading 2			
Row Heading 3			
Row Heading 4			
Row Heading 5			

**5.3.8.** Long horizontal tables in a landscape page should be oriented so that the table title is on the left side of the page (see Example 5.3.10.).

**5.3.9.** The page number format for tables laid-out in a landscape page shall follow the provisions presented in Section 8.3.

**5.3.10.** Example 5.3.10.

page

FIRST LEVEL HEADING 1	FIRST LEVEL HEADING 2	FIRST LEVEL HEADING 3	FIRST LEVEL HEADING 4	FIRST LEVEL HEADING 5
Row Heading 1				
Row Heading 2				
Row Heading 3				
Row Heading 4				
Row Heading 5				

## Section 5.4. Format of Table Entries

**5.4.1.** All entries, including headings, shall be single-spaced within a cell and shall be centered vertically.

**5.4.2.** If possible, entries should also be centered horizontally. However, phrases are preferably flushed to the left margin.

**5.4.3.** Consistency on the format of values and entries shall be observed. In a column or row populated by numerical values, the number of decimal places shall be the same in each cell, depending on the desired accuracy.

### 5.4.4. Example 5.4.4.

Table 4-13. Empirical heating values of seaweed samples at various moisture contents.

MOISTURE CONTENT(%)	HEATING VALUE (kJ/kg)		
	Roxas Samples	Ivisan Samples	Pilar Samples
22	9,406.76	9,927.24	10,174.00
26	8,923.08	9,486.92	9,744.00
30	8,439.40	9,046.60	9,314.00
34	7,955.72	8,606.28	8,884.00
38	7,472.04	8,165.96	8,454.00

**5.4.5.** Fractional and decimal values shall not be mixed in the same column or row.

**5.4.6.** Units of different systems (i.e. SI and English) shall not be mixed in the same column or row. The values shall be converted from one system to another for consistency.

## Section 5.5. Table Footnote and Citation

**5.5.1.** Footnotes to be included in the table shall be positioned below the bottom double line border, single-spaced and flushed to the left edge of the table (see Example [5.5.3.](#)).

**5.5.2.** For tables sourced from references, the source shall be indicated below the bottom double line border (or footnote, if any), flushed to the left edge of the table and in italics. The source shall contain the author and year of publication (see Example [5.5.4.](#)).

### 5.5.3. Example 5.5.3.

Table 4-19. Mean water temperature observed in different treatments\*.

TREATMENT	TEMPERATURE (°C)	
	Location 1	Location 2
1	38.17	38.98
2	38.49 <sup>a</sup>	38.66
3	38.51 <sup>a</sup>	36.62
4	38.56	38.82
5	38.22	37.72
6	37.93	36.38

\*In a column, means followed by the same letter are not significantly different at  $p < 0.05$ .

5.5.4. Example 5.5.4.

Table 2-2. Selected properties of conventional biomass resources.

TYPES	HEATING VALUE (MJ/kg)	PERCENT MOISTURE	PERCENT ASH
Fruit stems	5.0	63	-
Oil-palm husks	7.0-8.0	55	5.00
Oil-palm fibers	7.0-8.0	55	10.0
Bagasse	7.7-8.0	40-60	1.7-3.8
<i>Phaeophyta</i>	9.0-11.0	-	24.0-45.0
<i>Chlorophyta</i>	8.0-13.0	-	24.0-50.0
Giant Brown Kelp	10.3	-	10.3
Rice Husks	14.0	9	19.0
Maize Cobs	13.0-15.0	10-20	2.0
Coffee husks	16.0	10	0.6
Cocoa husks	13.0-16.0	7-9	7.0-14.0
Wood	8.4-17.0	10-60	0.3-1.7

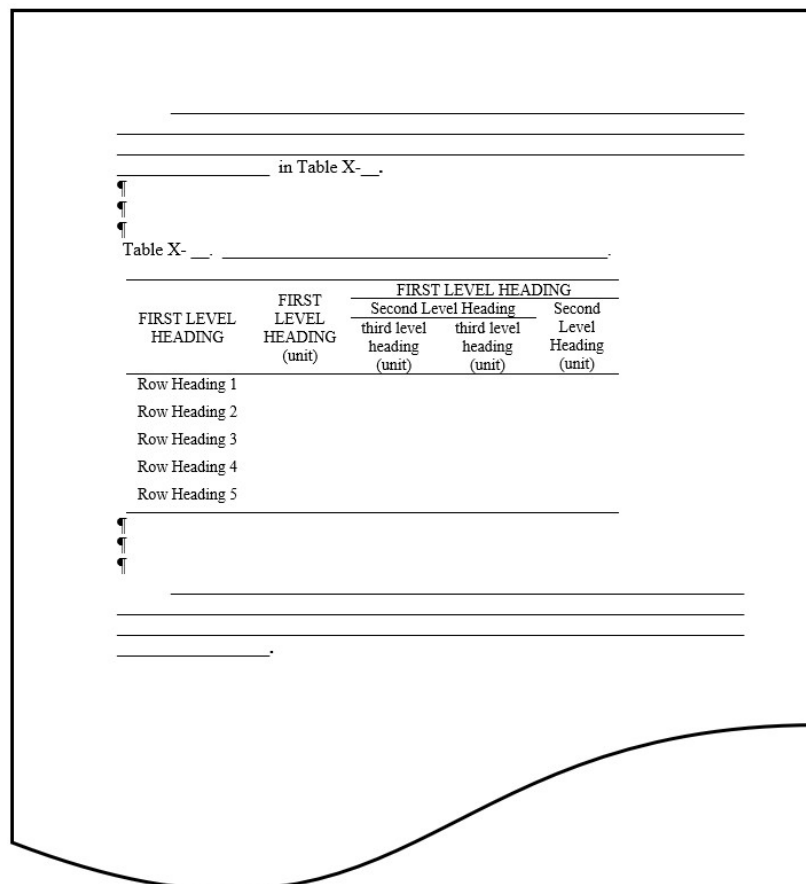
Source: Albuero et al., 2010

Section 5.6. Table Presentation in the Text

5.6.1. Tables can be presented **after** they are mentioned in the text or they could be placed as appendix tables.

5.6.2. Tables shall be aligned to the left margin. They could be placed along with the text or could be in a separate page. If placed with the text, three (3) spaces shall be maintained between the table title and the last line of the preceding text. Likewise, three (3) spaces shall also be provided between the bottom of the table and the first line of the succeeding text.

5.6.3. Pattern 5.6.3.



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## Article 6

# Figure Presentation

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### Section 6.1. Figure Number and Title

**6.1.1.** Figures shall be numbered consistently and continuously, independent of the numbering of tables and the numbering of equations.

**6.1.2.** Figure numbers are composed of two numbers separated by a dash. The first number corresponds to the number of the chapter where the figure belongs while the second number corresponds to the number of the figure as it appears in the chapter.

**6.1.3.** Figure caption shall be preceded by the label “Figure Y-Y.” (not “Fig. Y-Y”) followed by a period. The caption immediately follows after two (2) spaces. Similarly, figures considered as appendix figures shall be continuously and consistently labelled as “Appendix Figure \_\_\_\_.”

**6.1.4.** The caption shall be placed at the bottom of the figure and shall be in sentence case (i.e. only the first letter of the first word is capitalized, and the whole caption is followed by a period). A single space shall be maintained between the bottom edge of the figure and the first line of the figure caption.

**6.1.5.** The figure caption shall be positioned relative to the page. For consistency, the figure caption, including the label “Figure Y-Y.” shall be aligned to the left margin.

**6.1.6.** If the figure caption length exceeds the page width, the title shall be cut off, and the remaining part is aligned to the start of the label, in single space.

**6.1.7.** The guidelines stated in the preceding provisions are exemplified in Example [6.1.8.](#)

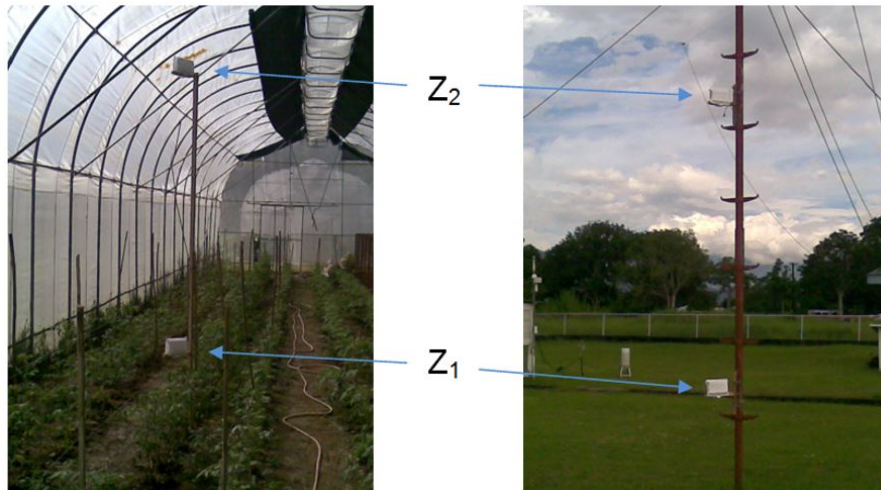
**6.1.8. Example 6.1.8.**

Figure 3-4. Data logger set-up for Bowen ratio measurement.

**Section 6.2. Figure Footnote and Citation**

**6.2.1.** Footnotes shall be positioned immediately after the figure caption. It shall be introduced by the italicized term “*Note:*” and the note shall follow after two (2) spaces (see Example 6.2.2. ).

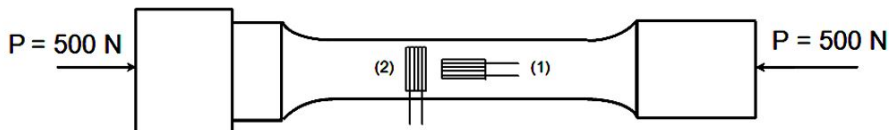
**6.2.2. Example 6.2.2.**

Figure 4-12. Strain gauge positions in the load cell. *Note:* Gauges (3) and (4) were positioned at the opposite side of the load cell.

**6.2.3.** For figures sourced from references, the source shall be indicated after the figure caption (or note, if any). The source shall contain the author (or title) and year of publication and it shall be introduced by the italicized term “*Source:*” (see Example 6.2.4.).

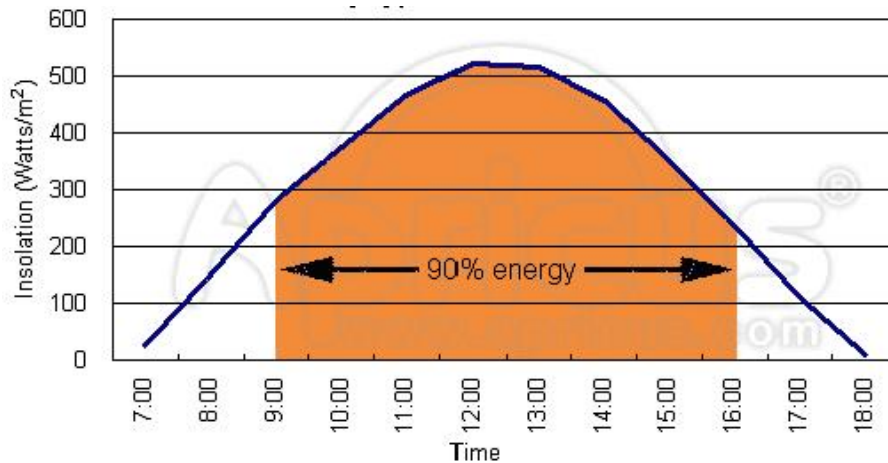
**6.2.4. Example 6.2.4.**

Figure 3-9. Twelve-hour day typical insolation curve. *Source:* Apricus, 2006.

### Section 6.3. Charts

**6.3.1.** The most appropriate chart type shall be selected to show the relationship between variables (e.g. line charts should be used when showing trends, bar charts should be used when comparing values, pie charts should be used to show the contribution of each value to a total, etc).

**6.3.2.** Consistency on the format of graphs shall be observed. All axis labels, axis titles and legend titles shall be formatted to Times New Roman font style.

**6.3.3.** Axis titles shall be in title case (i.e. the first letter of all significant words are capitalized). Appropriate units, enclosed in parentheses, shall follow.

**6.3.4.** In an axis with numerical labels, the number of decimal places shall be the same in each interval, depending on the desired accuracy. Fractional and decimal values shall not be mixed in the same axis.

**6.3.5.** Preferably, gridlines should be omitted. Legends should be positioned in vacant spaces in the plot area. If the plot area is crowded, the legends may be placed outside the plot area.

**6.3.6.** Preferably, bar and pie charts should be shaded using hatched lines instead of regular colors. This is to ensure that the variations in the charts are still visible even when the figure is printed in black and white ink. If hatched lines are not appropriate, colored charts may still be used, provided that a good contrast is maintained among chart segments.

**6.3.7.** Equations and  $R^2$  values which are usually included in a scatter chart should be positioned as close as possible to the line or points they describe.

**6.3.8.** The guidelines stated in the preceding provisions are exemplified in Examples [6.3.9.](#) and [6.3.10.](#)



**6.3.9. Example 6.3.9.**

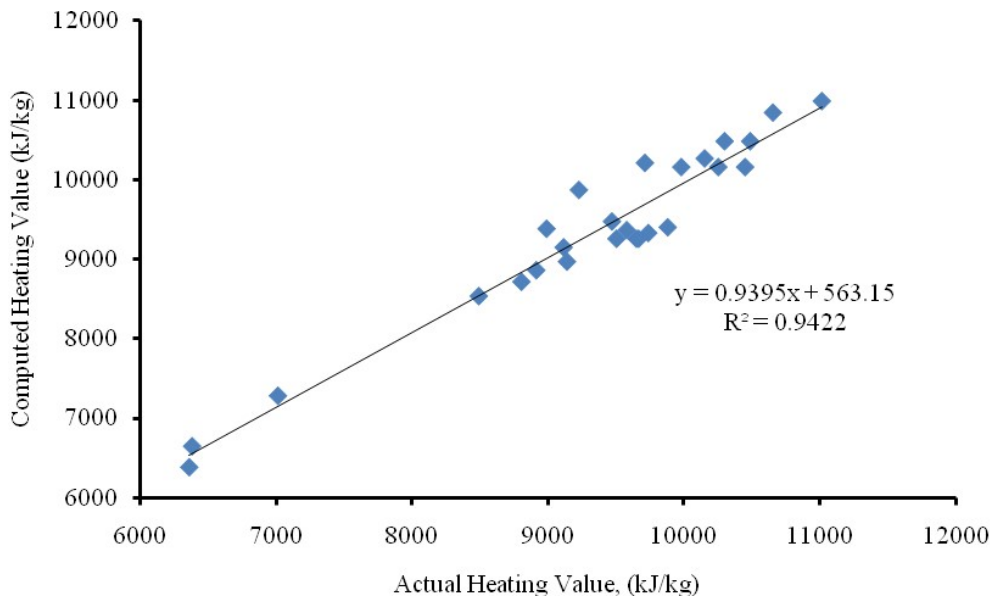


Figure 4-21. Computed heating values vs. actual heating values.

**6.3.10. Example 6.3.10.**

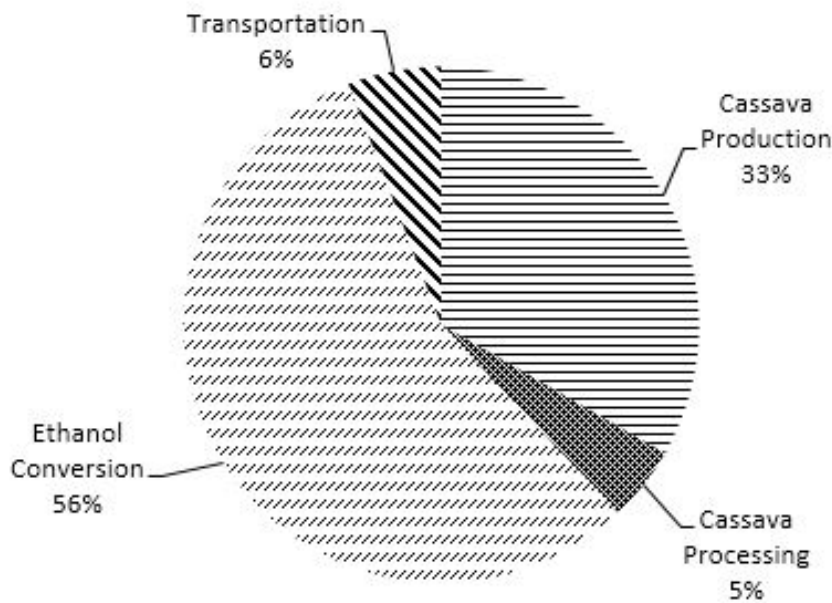


Figure 4-8. Input energy allocation for different segments in cassava bioethanol production.

**Section 6.4. Landscape Figures, Maps, and Plans**

**6.4.1.** Figures laid-out in a landscape page should be oriented so that the figure caption is below the figure which is on the right side of the page as in portrait pages (see also Example 8.3.3.)

**6.4.2.** The page number format for figures laid-out in a landscape page shall follow the provisions presented in Section 8.3.

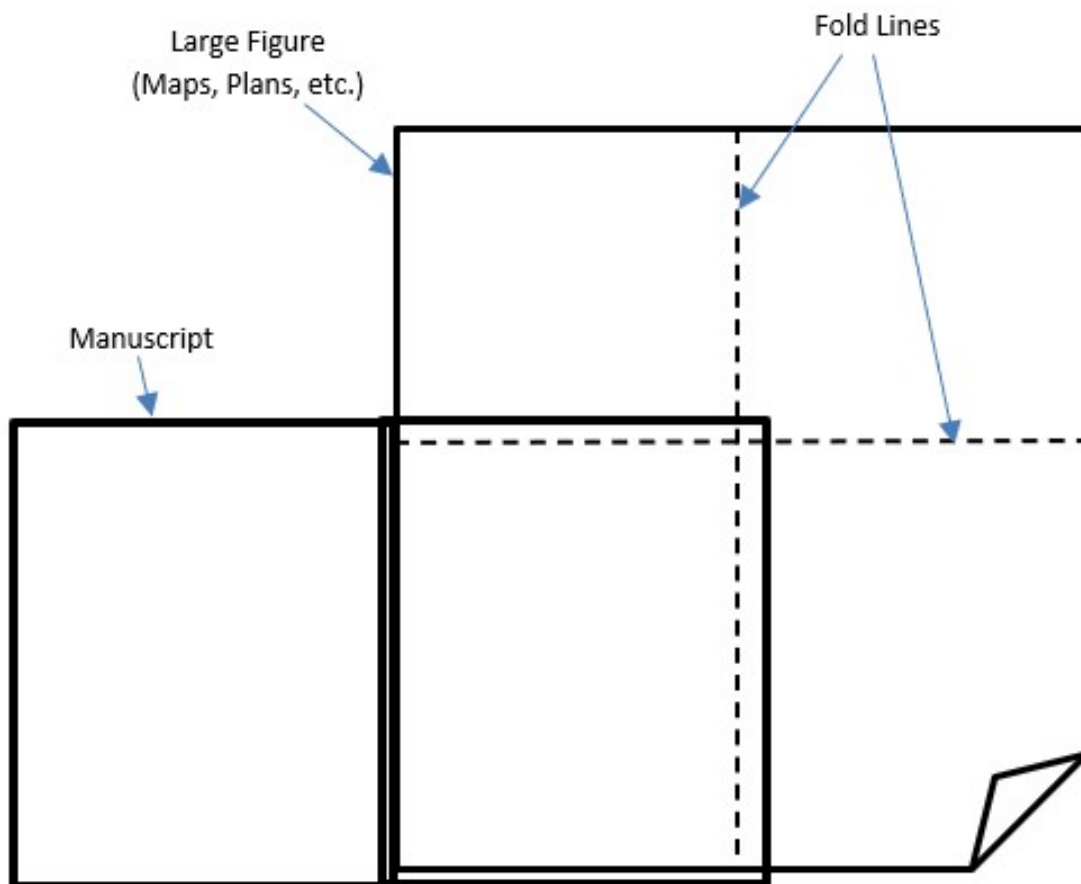
**6.4.3.** Maps, floor plans and other engineering drawings drawn in paper sizes larger than an A4 paper, collectively termed 'large figures' in this article, may be included in the manuscript, preferably in the appendices section.

**6.4.4.** To be included in the bound copies of the manuscript, large figures shall be folded to conform to the dimensions of the other pages. Authors are tasked to explore different ways of folding large figures depending on their requirements.

**6.4.5.** Authors are strongly encouraged to seek professional advice from bindery personnel as to the best way of including folded pages in the bound copies of the manuscript. As a general recommendation, the folded page should be smaller than an A4 paper. This is to prevent it from being cut since all the edges of the manuscript are usually trimmed off during the binding process.

**6.4.6.** Large maps and plans may be assigned with imaginary page numbers. However, these imaginary page numbers shall be consistent and in sequence with their neighbouring pages.

**6.4.7.** Example 6.4.7.



## Section 6.5. Figure Presentation in the Text

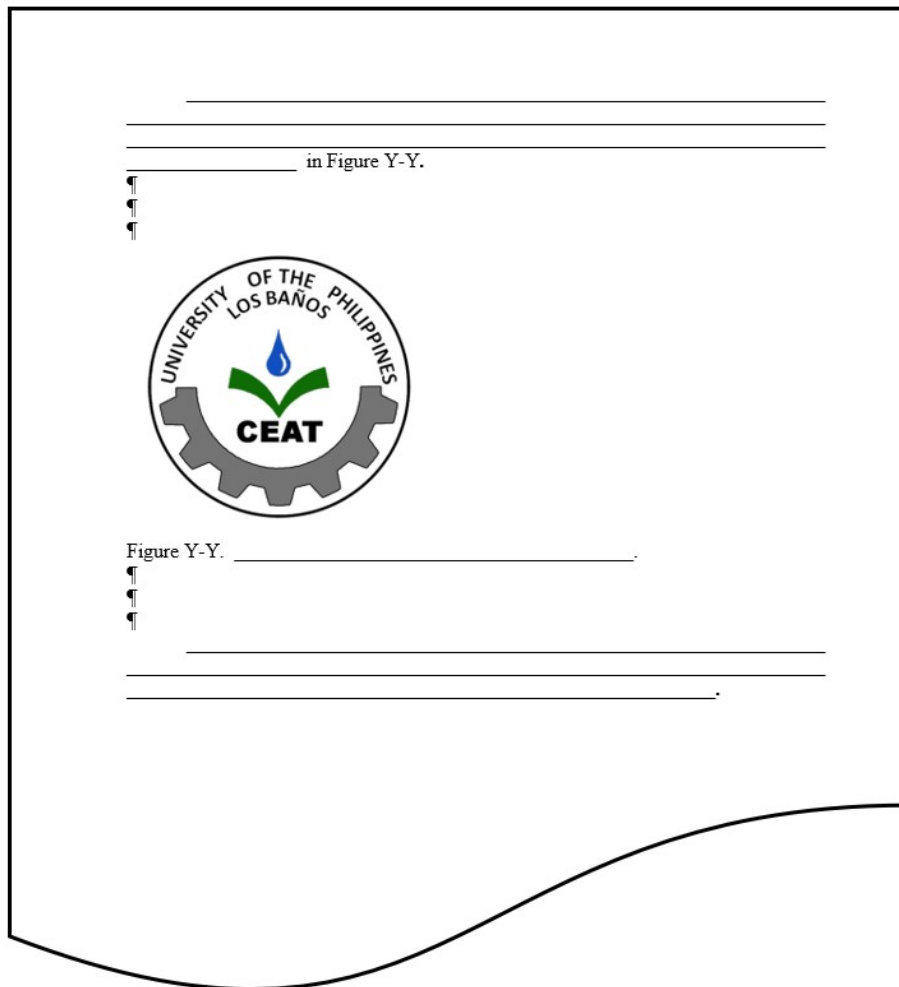
**6.5.1.** Figures shall be clear and do not contain unnecessary marks. Preferably, figures should be printed in colored ink.

**6.5.2.** Preferably, figures should not be enclosed by borders.

**6.5.3.** Figures can be presented *after* they are mentioned in the text or they could be placed as appendix figures.

**6.5.4.** Figures shall be aligned to the left margin. They could be placed along with the text or could be in a separate page. If placed with the text, three (3) spaces shall be maintained between the top edge of the figure and the last line of the preceding text. Likewise, three (3) spaces shall also be provided between the figure caption and the first line of the succeeding text.

**6.5.5. Pattern 6.5.5.**



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## Article 7

# Equation Presentation

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### Section 7.1. Equation Format

**7.1.1.** Equations between quantities are preferred over equations between numerical values. Equations shall be expressed in their mathematically correct form.

**7.1.2.** The variables shall be represented by letters or symbols, the meanings of which are explained in connection with the equation.

**7.1.3.** All the terms in the equations shall be italicized. However, the definition of terms shall be presented in normal format.

**7.1.4.** As far as possible, symbols having more than one level of subscript or superscript shall be avoided (see Example [7.1.5.](#)).

**7.1.5.** Example [7.1.5.](#)

$Q_{l,max}$  is preferable to  $Q_{l_{max}}$

### Section 7.2. Definition of Equation Terms

**7.2.1.** Each term in the equation, whether a constant or a variable, shall be defined after the equation is presented. For variables requiring a specific unit, the unit shall be enclosed in parenthesis and shall be placed at the end of the definition.

**7.2.2.** The definition of terms shall be introduced by the word “where:” followed by an enumeration of the terms with their corresponding definitions. The word “where” shall be flushed to the left margin of the page and shall be positioned three (3) spaces below the last line of the equation.

**7.2.3.** The list of terms shall be single-spaced and all flushed to the left margin (see Example [7.2.4.](#))

**7.2.4. Example 7.2.4.**

$$L = 2C + \frac{\pi}{2}(D_L + D_S) + \frac{(D_L - D_S)^2}{4C}$$

¶

¶

where:

 $L$  is the belt pitch length for an open drive $C$  is the center to center distance $D_S$  is the pitch diameter of small pulley $D_L$  is the pitch diameter of large pulley $\pi$  is the number 3.1415926. . .**Section 7.3. Equation Number**

**7.3.1.** Equations shall be numbered consistently and continuously, independent of the numbering of tables and the numbering of figures.

**7.3.2.** Equation numbers are composed of two numbers separated by a dash. The first number corresponds to the number of the chapter where the equation belongs while the second number corresponds to the number of the equation as it appears in the chapter.

**7.3.3.** The equation number shall be preceded by the label “Equation Z-Z” (not “Eqn. Z-Z”). The equation number and label shall be italicized and enclosed in parentheses.

**7.3.4.** The equation number shall be flushed to the right margin of the page, directly opposite the equation it describes.

**7.3.5. Example 7.3.5.**

$$T_R = \frac{F d_m (L + \pi f d_m)}{2 \pi d_m - f L} \quad (\text{Equation 3-11})$$

¶

¶

where:

 $T_R$  is the torque required to lift the axial load $F$  is the axial load carried by the screw $d_m$  is the screw mean diameter $f$  is the coefficient of friction between the nut and the screw $L$  is the screw lead $\pi$  is the number 3.1415926. . .**Section 7.4. Equation Presentation in the Text**

**7.4.1.** Equations can be presented *after* they are mentioned in the text or they could be placed in the appendix.

**7.4.2.** Equations shall be aligned to the left margin. If placed with the text, three (3) spaces shall be maintained between the first line of the equation and the last line of the preceding text. Likewise, three (3) spaces shall also be provided between the last defined term of the equation and the first line of the succeeding text.

**7.4.3.** If the equation is too long, it shall be cut off in such a way that it retains its correct form and meaning.

**7.4.4.** Example 7.4.4.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ in Equation Z-Z.

¶

¶

¶

$X = A + b - C$  (Equation Z-Z)

¶

¶

where:

$X$  is the \_\_\_\_\_

$A$  is the \_\_\_\_\_

$b$  is the \_\_\_\_\_

$C$  is the \_\_\_\_\_

¶

¶

¶

\_\_\_\_\_

\_\_\_\_\_

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## Article 8

# Pagination

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### Section 8.1. Pagination for Preliminary Pages

8.1.1. Preliminary pages shall contain lowercase roman numeral page numbers.

8.1.2. Page numbers shall be positioned at the bottom of each page, center-aligned and placed 1.25 cm inch from the bottom edge of the page.

8.1.3. The TITLE PAGE and the APPROVAL PAGE shall have imaginary page numbers.

8.1.4. Example 8.1.4.

The diagram shows a rectangular page layout. At the top center, the text "BIOGRAPHICAL SKETCH" is centered. Below this text are three vertical lines. The main body of the page consists of approximately 20 horizontal lines for writing. At the bottom right of the page, there are three vertical lines, followed by the text "AUTHOR'S FULL NAME". At the bottom center, the page number "iii" is centered, with a bracket extending from it to the right edge of the page, labeled "1.25cm", indicating the distance from the page number to the bottom edge.

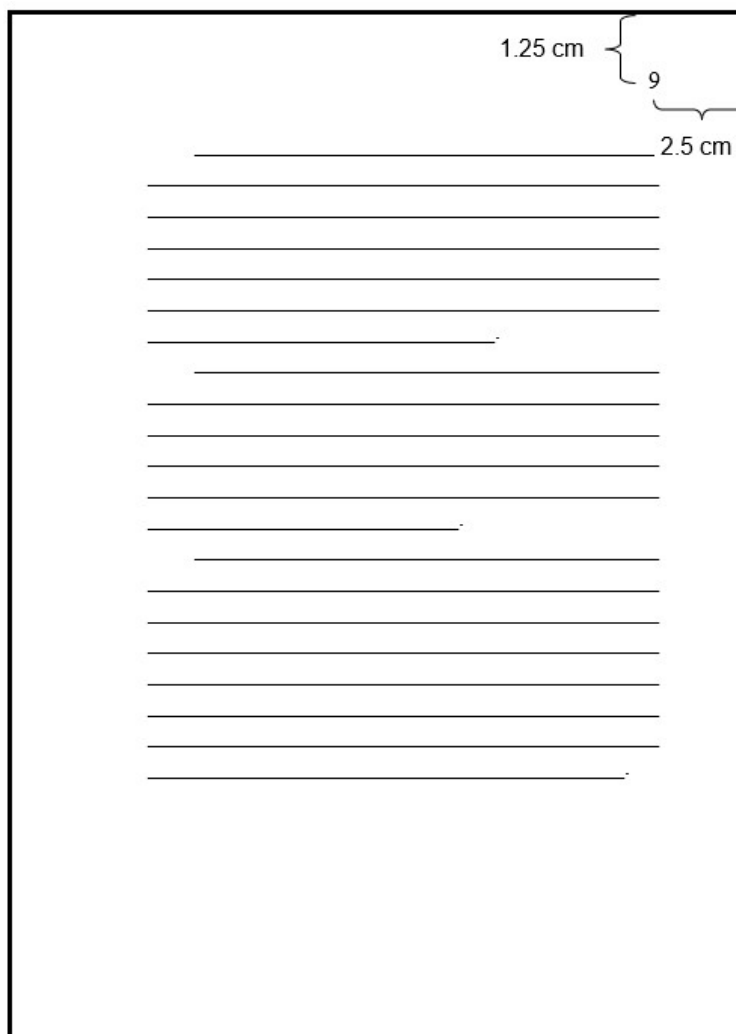
## Section 8.2. Pagination for the Main Body

**8.2.a.** The main body of the manuscript shall contain arabic numeral page numbers.

**8.2.b.** Page numbers shall be positioned at the upper right corner of the page, positioned 2.5 cm from the right side and 1.25 cm from the topside.

**8.2.c.** Pages containing the main headings (INTRODUCTION, REVIEW OF LITERATURE, THEORETICAL BACKGROUND, MATERIALS AND METHODS, RESULTS AND DISCUSSION, SUMMARY AND CONCLUSION, RECOMMENDATIONS, REFERENCES, APPENDICES) shall have imaginary page numbers.

**8.2.d.** Example **8.2.d.**



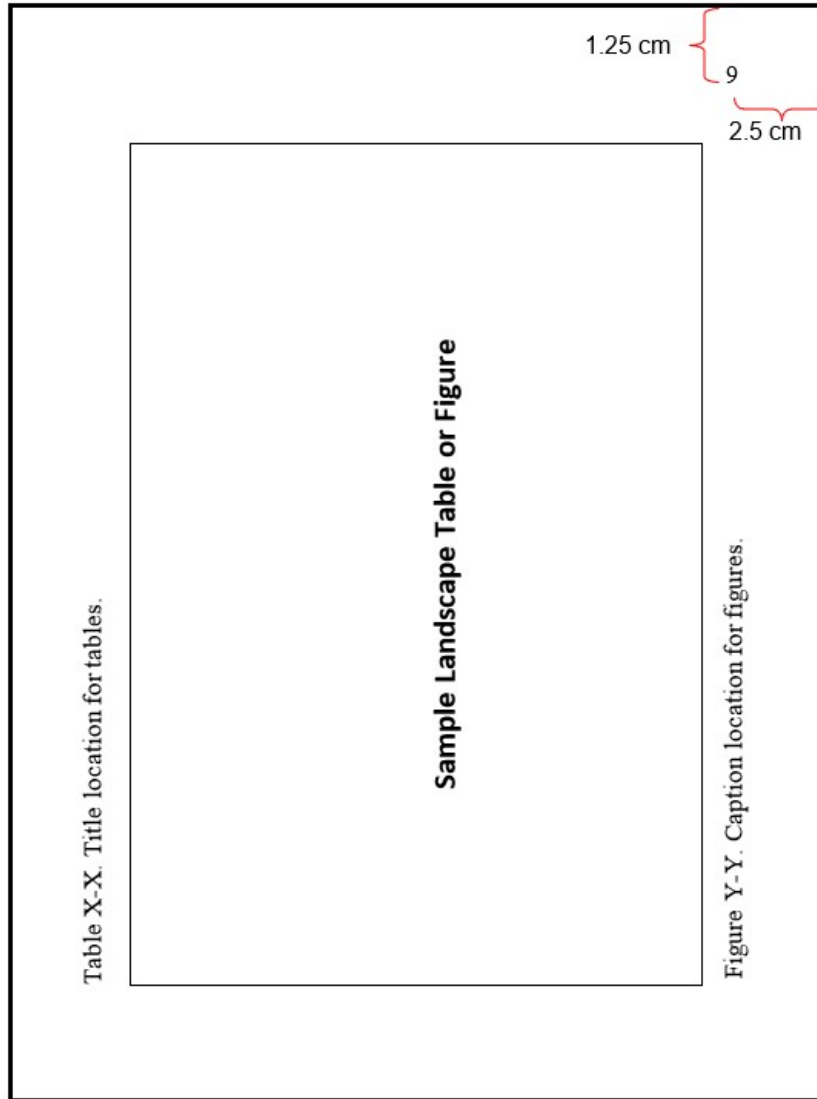
## Section 8.3. Pagination for Landscape Pages

**8.3.1.** Page number format, orientation and sequence of landscape pages shall conform to the provisions presented in Section **8.2**.

**8.3.2.** It shall be emphasized that in landscape pages, the orientation, and location of the page number shall still follow the format shown in Example **8.3.3**. (similar to portrait pages). In addition, the page number shall conform to the existing page sequence in the manuscript. Authors are strongly encouraged to explore options so that the provisions of this section are followed.



8.3.3. Example 8.3.3.



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# Article 9

## Appendix Presentation

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### Section 9.1. Appendix Format

The items that are included in the appendices, appendix tables, and appendix figures shall be formatted according to the guidelines governing the presentation of texts, tables, figures, and equations.

### Section 9.2. Appendix Letter, Number, and Title

**9.2.1.** Appendices shall be lettered chronologically starting from “APPENDIX A”.

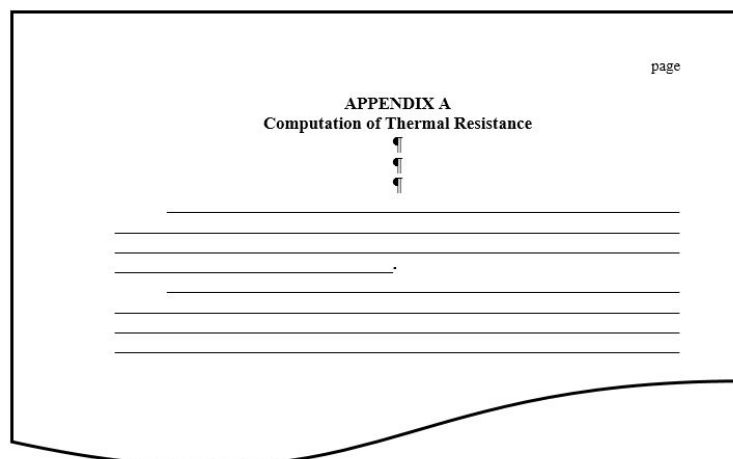
**9.2.2.** The heading “APPENDIX \_\_\_\_” shall be positioned at the topmost line of the page, center aligned and in uppercase and bold letters.

**9.2.3.** The appendix title shall be positioned at the center of the page, below the heading “APPENDIX \_\_\_\_”, in bold letters, and with the first letter of all significant words capitalized.

**9.2.4.** If the appendix title is composed of five or more words, it shall be arranged in an inverted pyramid form, in single space.

**9.2.5.** Three (3) spaces shall be maintained between the last line of the appendix title and the first line of the first paragraph.

**9.2.6.** Example 9.2.6.



**Section 9.3. Appendix Presentation in the Text**

**9.3.1.** The appendices shall be introduced by a single page labelled “APPENDICES”. This label shall be in uppercase and bold letters, and centered vertically and horizontally in the page. This page shall have an imaginary page number. Similar pages shall be provided for appendix tables and appendix figures.

**9.3.2.** Example **9.3.2.**



**9.3.3.** Each appendix shall be started on a new page, regardless of the space left on the previous page.

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## Article 10

# In-Text Citation and Reference List

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### Section 10.1. General Format and Style

**10.1.1.** All manuscripts shall use the American Psychological Association (APA) style of bibliographic citation. Specifically, authors are expected to use the style prescribed in the latest edition of the APA Publication Manual. The most recent version is the Seventh (7th) edition (APA 7) published in 2020.

**10.1.2.** APA uses the "Author-Date" style of parenthetical and narrative citation.

**10.1.3.** A detailed presentation of the APA style for various bibliographic sources may be found in the following APA online pages: [References](#) and [Reference Examples](#)

**10.1.4.** It should be emphasized that authors are responsible for all information in their reference list and in-text citations. The guidance committee is expected to verify the accuracy of the bibliographic entries.

### Section 10.2. Use of Reference Manager

**10.2.1.** Authors are encouraged to use a suitable reference management tool in creating and managing their bibliographic entries and in-text citations. Reference managers are applications intended for this purpose.

**10.2.2.** Reference managers are capable of importing references from search engines, databases, and websites. More importantly, they can insert citations and reference list in word processors like Microsoft Word™. Authors are expected to explore the capabilities of available reference managers to conform with the requirements of using the APA style as prescribed in Section [10.1](#).

**10.2.3.** The following may be used as reference managers (authors are free to use alternatives):

**3.5.13.1.** [Mendeley](#)

[Guides](#) | [Mendeley Cite](#)

**3.5.13.2.** [Zotero](#)

[Documentation](#) | [Zotero Word Plugin](#)

**3.5.13.3.** [Endnote](#)

[Training Resources](#) | [Cite While You Write](#)

**10.2.4.** Advisers are expected to instruct their students at the start of the thesis, innovationeering or EIR engagement to use a suitable reference manager.

### Section 10.3. Missing Reference Information

In creating a reference entry, four elements are usually present: author, date, title of the work, and source. In cases when elements are missing, the following template should be used:

Missing element	Solution	Reference List Entry	In-Text Citation
Nothing (all elements are present)	Provide the author, date, title, and source of the work.	Author. (Date). Title. Source.	(Author, year) ; Author (year)
Author	Provide the title, date, and source.	Title. (Date). Source.	(Title, year) ; Title (year)
Date	Provide the author, write "n.d." for "no date," and then provide the title and source.	Author. (n.d.). Title. Source.	(Author, n.d.) ; Author (n .d.)
Title	Provide the author and date, describe the work in square brackets, and then provide the source.	Author. (Date). [Description of work]. Source.	(Author, year) ; Author (year)
Author and date	Provide the title, write "n.d." for "no date," and then provide the source.	Title. (n.d.). Source.	(Title, n.d.) ; Title (n.d.)
Author and title	Describe the work in square brackets, and then provide the date and source.	[Description of work]. (Date). Source.	([Description of work], year) ; [Description of work] (year)
Date and title	Provide the author, write "n.d." for "no date," describe the work in square brackets, and then provide the source.	Author. (n.d.). [Description of work]. Source.	(Author, n.d.) ; Author (n.d.)
Author, date, and title	Describe the work in square brackets, write "n.d." for "no date," and then provide the source.	[Description of work]. (n.d.). Source.	([Description of work], n.d.) ; [Description of work] (n.d.)
Source	Cite as a personal communication or find another work to cite.	No reference list entry	(C. C. Communicator, personal communication, month day, year) ; C. C. Communicator (personal communication, month day, year)

*Adapted from APA 7, 2020*

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# Article 11

## Presentation of Quantities, Units and Dimensions

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### Section 11.1. Adoption of SI Units of Measure

11.1.1. Authors are strongly encouraged to use the SI system of units in their manuscripts.

11.1.2. SI units that are used in all manuscripts shall be presented according to their correct representations stated in succeeding sections.

11.1.3. The guidelines included in this article were adopted (almost verbatim) from Philippine Agricultural Engineering Standards (PAES) 010:2005 and 020:2005.

### Section 11.2. SI Base and Supplementary Units and their Symbols

The following table contains the base and supplementary units in SI and their corresponding symbols. Such units shall be used properly in the manuscript.

	Quantity	Unit	Symbol of SI Unit
Base Units:			
1	length	meter	m
2	mass	kilogram	kg
3	time	second	s
4	electric current	ampere	A
5	thermodynamic temperature	kelvin	K
6	amount of substance	mole	mol
7	luminous intensity	candela	cd
Supplementary units:			
1	plane angle	radian	rad
2	solid angle	steradian	sr

### Section 11.3. SI Unit Prefixes, Symbols, and their Multiples and Submultiples

The following table contains the prefixes and symbols of units in SI and their corresponding multiples and submultiples. Such prefixes and symbols shall be used properly in the manuscript.

Prefix	SI Symbol	Multiples and Submultiples	Meaning (No. of times multiplied)
exa*	E	$10^{18}$	1 000 000 000 000 000 000
peta*	P	$10^{15}$	1 000 000 000 000 000
tera*	T	$10^{12}$	1 000 000 000 000
giga	G	$10^9$	1 000 000 000
mega	M	$10^6$	1 000 000
kilo	k	$10^3$	1 000
hecto**	h	$10^2$	100
deca**	da	$10^1$	10
deci**	d	$10^{-1}$	0.1
centi	c	$10^{-2}$	0.01
milli	m	$10^{-3}$	0.001
micro	$\mu$	$10^{-6}$	0.000 001
nano*	n	$10^{-9}$	0.000 000 001
pico*	p	$10^{-12}$	0.000 000 000 001
femto*	f	$10^{-15}$	0.000 000 000 000 001
atto*	a	$10^{-18}$	0.000 000 000 000 000 001

\*Rarely used, mostly in highly scientific work

\*\*Not preferred

### Section 11.4. Derived Units

Derived units are combinations of basic units or other derived units as needed to describe physical quantities. The following table contains some common derived units in SI and their corresponding formulas. Such units shall be used properly in the manuscript.

Quantity	Unit	SI Symbol	Formula
acceleration	meter per second squared	-	$\text{m/s}^2$
Activity (of a radioactive source)	disintegration per second	-	(disintegration)/s
Angular acceleration	radian per second squared	-	$\text{rad/s}^2$
Angular velocity	radian per second	-	$\text{rad/s}$
Area	square meter	-	$\text{m}^2$
Density	kilogram per cubic meter	-	$\text{kg/m}^3$
electrical capacitance	farad	F	$\text{A}\cdot\text{s}/\text{V}$
electrical conductance	siemens	S	$\text{A}/\text{V}$
electrical field strength	volt per meter	-	$\text{V}/\text{m}$
electrical inductance	henry	H	$\text{V}\cdot\text{s}/\text{A}$

*Continued on next page*

Quantity	Unit	SI Symbol	Formula
electrical potential difference	volt	V	W/A
electrical resistance	ohm	$\Omega$	V/A
electromotive force	volt	V	W/A
energy	joule	J	N·m
Entropy	joule per kelvin	-	J/K
Force	newton	N	kg·m/s <sup>2</sup>
frequency	hertz	Hz	(cycle)/s
illuminance	lux	lx	lm/m <sup>2</sup>
luminance	candela per square meter	-	cd/m <sup>2</sup>
luminous flux	lumen	lm	cd·sr
magnetic field strength	ampere per meter	-	A/m
magnetic flux	weber	Wb	V·s
magnetic flux density	tesla	T	Wb/m <sup>2</sup>
magnetomotive force	ampere	A	-
Power	watt	W	J/s
Pressure	pascal	Pa	N/m <sup>2</sup>
quantity of electricity	coulomb	C	A·s
quantity of heat	joule	J	N·m
radiant intensity	watt per steradian	-	W/sr
specific heat	joule per kilogram-kelvin	-	J/kg·K
Stress	pascal	Pa	N/m <sup>2</sup>
thermal conductivity	watt per meter-kelvin	-	W/m·K
Velocity	meter per second	-	m/s
viscosity, dynamic	pascal-second	-	Pa·s
viscosity, kinematic	square meter per second	-	m <sup>2</sup> /s
voltage	volt	V	W/A
volume	cubic meter	-	m <sup>3</sup>
wavenumber	reciprocal meter		(wave)/m
Work	joule	J	N·m

## Section 11.5. Application of Prefixes

**11.5.1.** The prefixes shall be used to indicate orders of magnitude, thus eliminating insignificant digits and decimals, and providing a convenient substitute for writing powers of 10 as generally preferred in computation.



**11.5.2. Example 11.5.2.**

12 300 m	<b>OR</b>	$12.3 \times 10^3$ m	<b>BECOMES</b>	12.3 km
15 100 g	<b>OR</b>	$15.1 \times 10^3$ g	<b>BECOMES</b>	15.1 kg
0.020 L	<b>OR</b>	$20.0 \times 10^{-3}$ L	<b>BECOMES</b>	20 mL
0.0123 mA	<b>OR</b>	$12.3 \times 10^{-6}$ A	<b>BECOMES</b>	12.3 $\mu$ A

**11.5.3.** The prefix is not separated but combined with the parent unit (root word) to form one word.

**11.5.4. Example 11.5.4.**

centimeter	<b>NOT</b>	centi meter	<b>NOR</b>	centi-meter
kilogram	<b>NOT</b>	kilo gram	<b>NOR</b>	kilo-gram
milliliter	<b>NOT</b>	milli liter	<b>NOR</b>	milli-liter

**11.5.5.** Not more than one prefix shall be included in any unit. Double prefixes and hyphenated prefixes shall not be used.

**11.5.6. Example 11.5.6.**

nanometer (nm)	<b>NOT</b>	millimicrometer ( $m\mu$ m)
millimeter per second (mm/s)	<b>NOT</b>	meter per millisecond (mm/ $\mu$ s)

**11.5.7.** When a unit is expressed in the form of a product or quotient, the prefixed unit, if any, should be the first occurring unit.

**11.5.8. Example 11.5.8.**

millinewton meter (mN · m)	<b>NOT</b>	Newton millimeter (N · mm)
millimeter per second (mm/s)	<b>NOT</b>	meter per millisecond (m/ms)

**11.5.9.** The only base unit that contains a prefix is the kilogram. Multiples and submultiples of a derived unit containing kilogram are formed by addition of prefixes to the term "gram". If kilogram is not the first term, then two prefixes may appear in the derived units.

**11.5.10. Example 11.5.10.**

kg/m <sup>3</sup>	<b>AND HENCE</b>	g/m <sup>3</sup>	<b>AND</b>	mg/m <sup>3</sup>
J/kg	<b>AND HENCE</b>	kJ/kg	<b>AND</b>	MJ/kg

**11.5.11.** As much as possible, prefixes shall not be used in the denominator except for kilogram which is a base unit.

**11.5.12. Example 11.5.12.**

Correct Symbols	Not Correct
50 000 J/s	50 J/ms
25 000 m/s	25 N/ms

**11.5.13.** With SI units of higher order such as m<sup>2</sup> or m<sup>3</sup>, the prefix is also raised to the same order.

**11.5.14. Example 11.5.14.****Correct Symbols**

square millimeter	mm <sup>2</sup> (10 <sup>-3</sup> m) <sup>2</sup> 10 <sup>-2</sup> m <sup>2</sup>
cubic milliliter	mL <sup>3</sup> (10 <sup>-3</sup> L) <sup>3</sup> 10 <sup>-9</sup> m <sup>3</sup>

**Section 11.6. Selection of Appropriate Units and Prefixes**

**11.6.1.** When expressing a quantity by a numerical value and a unit, a prefix should be chosen so that the numerical value preferably lies between 0.1 and 1000, except where certain multiples and submultiples have been agreed for particular use. The same unit, multiple or submultiple should be used in tables even though the series may exceed the preferred range of 0.1 to 1000.

**11.6.2. Example 11.6.2.**

<b>Correct Symbols</b>	<b>Incorrect Symbols</b>
8.613 m	0.008 613 km
861.3 km	861 300.0 m
500 kPa or 0.5 MPa	500 000 Pa

**Section 11.7. Capitalization**

**11.7.1.** All unit symbols are written in lower case (small) letters except for SI units derived from a proper name. The following table summarizes the symbols for units derived from proper names.

Units derived from proper name	Symbols
watt	W
volt	V
newton	N
pascal	Pa
coulomb	C
farad	F
siemens	S
weber	Wb
tesla	T
henry	H
becquerel	Bq
degree Celsius	°C
joule	J
hertz	Hz
ampere	A

**11.7.2.** The “liter” symbol shall be capitalized (L) to avoid confusion with other symbols or numbers like “Figure 1”.

**11.7.3.** Unabbreviated units are not capitalized; for example kelvin, joule, newton, etc. except for Celsius which is always written with a capital C.

**11.7.4.** Numerical prefixes and their symbols are not capitalized; except for the symbols M (mega), G (giga), T (tera), P (peta) and E (exa).

## Section 11.8. Singular and Plural Form

**11.8.1.** Unabbreviated SI units form their plurals in the usual manner by adding s at the end of the word. Exceptions are “siemens”, “hertz” and “lux” which stand for both singular and plural form. SI symbols are always written in singular form.

**11.8.2.** Example **11.8.2.**

	<b>Correct Symbol</b>	<b>Not Correct</b>
50 newtons	50 N	50 Ns
25 millimeters	25 mm	25 mms
4 grams	4 g	4 gs
15 kilometers	15 km	15 kms

## Section 11.9. Punctuation

**11.9.1.** A symbol is not an abbreviation of the name of the unit or quantity; therefore, periods shall not be used after any SI unit symbol, unless the symbol occurs at the end of a sentence.

**11.9.2.** Example **11.9.2.**

3 kg	<b>NOT</b>	3 kg.
m <sup>2</sup>	<b>NOT</b>	m. <sup>2</sup>

**11.9.3.** No abbreviation shall be used in SI.

**11.9.4.** Example **11.9.4.**

<b>For Unit:</b>	<b>Use this Symbol</b>	<b>Not the Abbreviation</b>
cubic meter	m <sup>3</sup>	cu.m ; cu m
gram	g	gm. ; gm
minute	min	min.

**11.9.5.** When symbols are used in an adjectival sense, a hyphen may or may not be used between the symbol and the number.

**11.9.6.** Example **11.9.6.**

	<b>Correct (hyphen may/ may not be used)</b>	<b>Not Correct</b>
16 mm film	16-mm film	16 mm-film
3 tonne truck	3 tonne truck	3 tonne-truck

## Section 11.10. Spacing

**11.10.1.** Unit names and symbols are separated from the numerical value by a space, except in the case of degree ( $^{\circ}$ ), minute ( $'$ ) and second ( $''$ ); e.g.  $37^{\circ}\text{C}$  and  $28^{\circ}50'24''$ .

**11.10.2. Example 11.10.2.**

21 km	<b>NOT</b>	21km
15 kg	<b>NOT</b>	15kg

**11.10.3.** A space shall be provided between the numbers and signs for multiplications, division, addition, and subtraction.

**11.10.4. Example 11.10.4.**

4 m $\times$ 3 m	<b>NOT</b>	4 m $\times$ 3m
6 mm – 3 mm	<b>NOT</b>	6 mm –3 mm
5 cm + 4 cm	<b>NOT</b>	5 cm +4 mm

## Section 11.11. Spelling

**11.11.1.** Since SI is the international language of measurement, it is advisable to adhere as closely and promptly as possible to the SI rules of usage for better word understanding.

**11.11.2.** The following international spellings of SI units are much preferred: “metre”, “tonne” and “litre” but “meter”, “ton” and “liter” are permissible.

**11.11.3.** When referring to the instrument or device and for the verb form, the spelling “meter” is to be used as in “speedometer”, “electric meter”, “taxi meter” and “metered”.

## Section 11.12. Derived Units

**11.12.1.** The product of two or more units in symbolic form is preferably indicated by a dot midway in relation to unit symbol height. The dot may be dispensed with when there is no risk of confusion with another unit symbol.

**11.12.2. Example 11.12.2.**

100 N·m	<b>OR</b>	100 Nm	<b>NOT</b>	100 mN
1 V·s	<b>OR</b>	1 V s	<b>NOT</b>	1 sV
100 kW·h	<b>OR</b>	100 kWh	<b>NOT</b>	100 hkW

**11.12.3.** A solidus (oblique stroke, /), a horizontal line or negative powers, may be used to express a derived unit formed from two others by division.

**11.12.4. Example 11.12.4.**

	<b>Correct</b>
15 meters per second	$15 \text{ m/s}$ $15 \frac{\text{m}}{\text{s}}$ $15 \text{ m} \cdot \text{s}^{-1}$
35 newtons per square meter	$35 \text{ N/m}^2$ $35 \frac{\text{N}}{\text{m}^2}$ $35 \text{ N} \cdot \text{m}^{-2}$

**11.12.5.** Names and symbols are not to be mixed within the same unit expression. For consistency, write all words in the metric name or description, or all symbols should be used.

**11.12.6. Example 11.12.6.**

<b>Correct</b>	<b>Incorrect</b>
9 meters per second 9 m/s	9 m per s 9 m per second 9 meter per s 9 meter/second
10 joules per second 10 J/s	10 J per s 10 J per second 10 joules per s 10 joules/second

**Section 11.13. Use of Decimals**

**11.13.1.** Whenever a numerical value is less than one, a zero shall precede the decimal point.

**11.13.2. Example 11.13.2.**

<b>Correct</b>	<b>Incorrect</b>
0.7 mL	.7 mL
0.1 kg	.1 kg

**11.13.3.** Decimals should be used as much as possible instead of common fractions, which should be avoided. Decimals are also preferred for computer applications as common fractions introduce complications in key punching and programming.

**11.13.4. Example 11.13.4.**

<b>Correct</b>	<b>Not Preferred</b>
0.75 L	$\frac{3}{4}$ L
1.5 m	1 $\frac{1}{2}$ m

## Section 11.14. Grouping of Numbers

**11.14.1.** In SI, to facilitate reading, numbers which have four or more digits shall be arranged in groups of three, separated by a space instead of comma, counting from the decimal position or marker with a space or gap between groups. This is to avoid confusion since some European countries use the comma as decimal marker.

**11.14.2.** Example **11.14.2.**

Correct	Incorrect
983 769.816 34 1 532	983 769.81634 1,532

**11.14.3.** In the Philippines, the use of comma as thousand separator or marker is allowed.

**11.14.4.** Example **11.14.4.**

**Correct:**

9,494 m  
10,666.25 L

## Section 11.15. Non-SI Units

**11.15.1.** Certain units outside the SI are recognized by ISO because of their practical importance in specialized fields. Recognized names for some multiples of units such as “liter” (L) for volume, “hectare” (ha) for land measure and “metric ton” (t) for mass.

**11.15.2.** The SI base unit for thermodynamic temperature is kelvin (K). Because of the wide usage of the degree Celsius, particularly in engineering and nonscientific areas, the Celsius scale (formerly called the centigrade scale) may be used when expressing temperature.

**11.15.3.** The SI unit for time is the second. This unit is preferred and should be used when technical calculations are involved. In other cases use of the minute (min), hour (h), day (d), etc., is permissible.

**11.15.4.** The SI unit for plane angle is the radian. The use of arc degrees ( $^{\circ}$ ) and its decimal or minute ( $'$ ), second ( $''$ ) submultiple is permissible when the radian is not a convenient unit. Solid angles should be expressed in steradians.

## Section 11.16. Preferred Units and Conversion Factors

Preferred units for expressing physical quantities are presented as an aid in selecting proper units for given applications and to promote consistency when interpretation of the general rules of SI may not produce consistent results. For the preferred units and conversion factors, PAES 020:2005 (Metrication Guidelines) should be consulted.

## Section 11.17. Representation of Numbers and Numerical Values

**11.17.1.** For clarity, the symbol  $\times$  rather than a point shall be used to indicate multiplication of numbers and numerical values.

**11.17.2. Example 11.17.2.**

Write  $1.8 \times 10^{-3}$  (not  $1.8 \cdot 10^{-3}$  or  $1.8 \cdot 10^{-3}$ )

**11.17.3.** To express numbers of items (as opposed to numerical values of physical quantities), the numerals one to nine shall, as a general rule, be spelt out in full.

**11.17.4. Example 11.17.4.**

“Carry out the test on five tubes, each 5 m long.”

**11.17.5. Example 11.17.5.**

“Select further 15 tubes, each 5 m long.”

**Section 11.18. Indication of Dimensions and Tolerances**

**11.18.1.** Dimensions and tolerances shall be indicated in an unambiguous manner.

**11.18.2. Example 11.18.2.**

80 mm × 25 mm × 50 mm (not  $80 \times 25 \times 50$  mm)

**11.18.3. Example 11.18.3.**

80  $\mu$ F ± 2  $\mu$ F or (80 ± 2)  $\mu$ F

**11.18.4. Example 11.18.4.**

10 kPa to 12 kPa (not 10 to 12 kPa)

**11.18.5. Example 11.18.5.**

0 °C to 10 °C (not 0 to 10 °C)

**11.18.6.** In order to avoid misunderstanding, tolerances on percentages shall be expressed in a mathematically correct form.

**11.18.7. Example 11.18.7.**

Write “from 63 % to 67 %” to express a range.

**11.18.8. Example 11.18.8.**

Write “(65 ± 2) %” to express a center value with tolerance. The form “65 ± 2 %” shall not be used.

**Section 11.19. Additional Guidelines**

**11.19.1.** Internationally standardized unit symbols shall not be modified by adding subscripts or other information.

**11.19.2. Example 11.19.2.**

“ $U_{\max} = 500 \text{ V}$ ” and **not** “ $U = 500 \text{ V}_{\max}$ ”

“a mass fraction of 5 % and **not** “5 % (m/m)”

“a volume fraction of 7 %” and **not** “7 % (V/V)”

(Remember that % = 0.01 and ‰ = 0.001 are “pure” numbers.)

**11.19.3.** Do not mix information with unit symbols, Write, for example, “the water content is 20 mL/kg” and **not** “20 mL H<sub>2</sub>O/kg” or “20 mL of water/kg”.

**11.19.4.** Quotient quantities shall not contain the word “unit” in the denominator. For example, write “mass per length” and **not** “mass per unit length”.

**11.19.5.** Distinguish between an object and any quantity describing the object, e.g. between “surface” and “area”, “body” and “mass”, “resistor” and “resistance”, “coil” and “inductance”.

**11.19.6.** Two or more physical quantities cannot be added or subtracted unless they belong to the same category of mutually comparable quantities. Accordingly, the method of expression for a relative tolerance such as  $230 \text{ V} \pm 5 \%$  does not comply with this basic law of algebra. The following methods of expression may be employed instead:

“ $230 \times (1 \pm 5 \%) \text{ V}$ ”

“ $230 \times (1 \pm 0.05) \text{ V}$ ”

“230 V, with a relative tolerance of  $\pm 5 \%$ ”



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## Article 12

# Protocols for Electronic Submission

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Aside from the bound copies of manuscripts, divisions, departments and libraries require the submission of such manuscripts in electronic forms. The submission protocol described herein presupposes that all signatories have already signed in the approval page (see also Section [3.5.26](#)).

### Section 12.1. Protocols for Department or Division Submissions

**12.1.1.** Students shall submit to their respective advisers raw files of their manuscripts and other documents. The files may include, but not limited to, MS Word™(or equivalent editable file) and .pdf copies of the manuscripts, posters, spread sheet entries of data, etc. Advisers are responsible for the creation of a submission system for their students

**12.1.2.** For submissions to departments or divisions, the advisers shall be responsible in submitting .pdf copies of the manuscript of their respective students to the department or division. The .pdf copy of the manuscript in this submission shall be unrestricted (without password). Department and Divisions shall maintain an online repository of manuscripts arranged according to semesters/midyear terms.

### Section 12.2. Protocols for Library Submissions

**12.2.1.** Department chairs and institute directors are responsible for the **BATCH** submission of electronic copies of all manuscripts from their respective units to the CEAT library. The submission period should be between the day of the college faculty meeting to approve the students' graduation and the first day of processing of student clearance (usually after the university council meeting). Unit heads shall ensure that .pdf copies of all manuscripts are editable (without password).

**12.2.2.** Students shall not be permitted to directly submit their manuscripts to the CEAT and UPLB libraries. They should follow the protocol in Section [12.1.1](#).

**12.2.3.** The CEAT Library shall be responsible for generating appropriate security features (e.g. watermarks, password protection) for all submitted manuscripts.

**12.2.4.** The CEAT Library shall be responsible for the submission of electronic copies of thesis and EIR manuscripts to the UPLB Main Library.

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# References

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The following documents were consulted and used in the preparation of this text:

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