

**GUIDELINE TO PREPARE PROPOSAL FOR FINAL YEAR
PROJECT**

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(MATRIC NUMBER)**

**Supervised by
XXXX XXX XX XXXXXXXX**

Proposal submitted in partial fulfillment
of the requirements for the degree
of Bachelor of Engineering



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1. BACKGROUND OF STUDY

1.1. Cover page

Font: Times New Roman

Size: 14 and 12 (where appropriate)

1.2. Binding

All proposals must be bounded by **tape-binding**

2. PROBLEM STATEMENT

2.1. Length of proposal

As guidelines, the final year project proposal generally should be in the range from **15-30** pages.

2.2. Typing

Proposal should be typed, one and half-spaced on one side of the paper. However, single-spacing is recommended for figure/table captions.

3. OBJECTIVES

3.1. Margins

The stipulated margins for the general text are as follows (Figure 3-1):

Top edge	:	2.5 cm or 1 inch
Right side	:	2.5 cm or 1 inch
Left side	:	3.5 cm or 1.35 inch
Bottom edge	:	2.5 cm or 1 inch

Page number position should be centered. (☆☆)

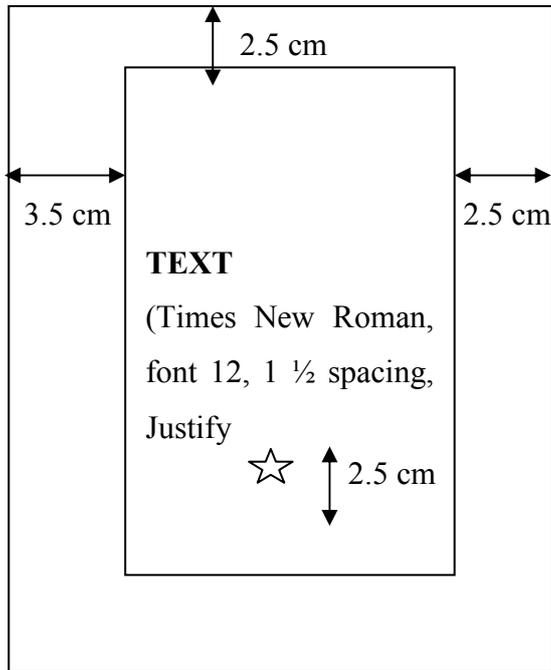


Figure 3-1: Margins for the general text

4. LITERATURE REVIEW

4.1. Figure/Table

They must be properly centered on the page within the prescribe margin. The word **Figure** or **Fig.**, or Table is numbered in **Arabic numeral (Figure 4.1 and Table 4.1)** and its caption place below and above the figure (Figure 4-1) or table (Table 4-1) of font 12, single-spacing, respectively.

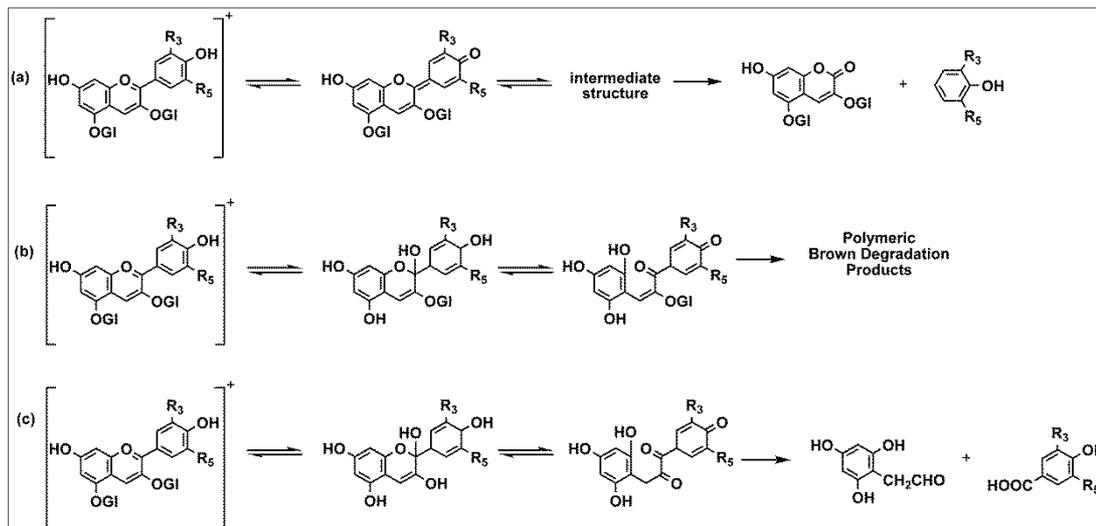


Figure 4-1: Mechanism of thermal degradation of anthocyanin

Table 4-1: Electron state of an atom

Quantum Number	Symbol	Allowed Values
Principle	n	1,2,3,...
Orbital	l	0,1,2,...
Orbital magnetic	m_l	
Spin magnetic	m_s	

Figure must be clear and usually of standard format i.e. **jpeg, tiff, gif, eps**, etc (Figure 4-2).

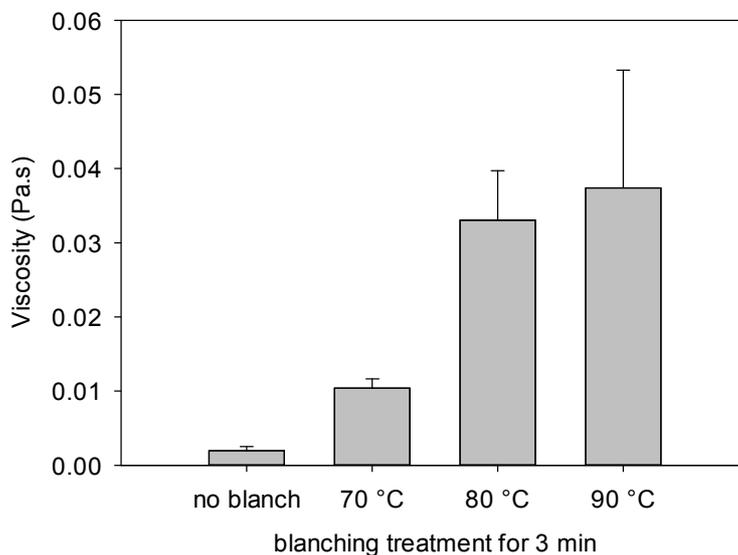


Figure 4-2: Effect of blanching treatment on viscosity of the juice. Data represent means \pm confidence interval at 95% (N=3). This data were extracted from Figure 5-3 at 0 min.

If any table continued onto the following or subsequent pages, the top line of the pages reads: Table 4-2 continued. The caption is not repeated.

Table 4-2: Description of seven commercial pectinase enzyme used for screening purpose

Product name (Company)	Declared enzyme
Celluzyme LX (Zymus)	Pectinase, cellulase, hemicellulase and arabinase
Kleerase 100XL (Zymus)	Pectin esterase and depolymerase, cellulases, hemicellulases and arabinase
Lallzyme HC (Lallemand)	Polygalacturonase, pectin esterase and pectin lyase

Table 4-2: Continued

Product name (Company)	Declared enzyme
Pectinex Ultra AFP (Novozyme)	Pectin lyase, polygalacturonase
Pectinex Ultra Clear (Novozyme)	Polygalacturonase
Rapidase X Press (DSM)	Polygalacturonase
Rapidase Excolor (DSM)	Polygalacturonase

5. METHODOLOGY

5.1. Mathematical Equation

Equations and formula should be type clearly using Equation Editor. The word Equation (*) or Eq. (*) are use to refer to the equation number (*-in Arabic numerals) (5.1).

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi x}{L} + b_n \sin \frac{n\pi x}{L} \right) \quad (5.1)$$

6. EXPECTED RESULTS

6.1. Subdivision

The internal organization of the text should be used consistently throughout the report. It is recommended that the text should be divided into chapters. Text in each chapter should be organized based on chapter number and content numbers in sequence. For example, Chapter 1, Chapter 2, Chapter 3, Chapter 4. Sub-divisions are also permitted. Content of each chapter may be divided under headings and sub-headings such as 1.1, 1.2, 1.3, and so on.

7. GRANTT CHART

Activity	Semester 1										Semester 2																			
	Week																													
	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Searching Information*	█																													
Prepare Thesis Chapter 1	█																													
Prepare Thesis Chapter 2	█	█																												
Prepare Thesis Chapter 3		█	█																											
Run Experiment (Shaker Flasks)			█	█	█	█																								
Run Experiment (2 L Bioreactor)						█	█	█																						
Run Experiment (5 L Bioreactor)								█	█																					
Analysis Result									█	█	█																			
Rerun Experiment													█	█	█															
Prepare Thesis Chapter 4																	█	█												
Prepare Thesis Chapter 5																		█	█											
Submit Report To Supervisor																			█	█										
Prepare Thesis Presentation																					█									
Presentation																						█								
Edit Thesis																										█	█	█		
Submit Final Report																												█		

* = Continue from week 3 (Semester 1)

8. MILESTONES

Table 8-1: Milestones of the research

Milestone	Date
Determine the physic-chemical properties of the sample	Sept 2015
Isolation of the sample by using molecular distillation	Nov 2015
Optimization the reaction using DOE	Jan 2016
Ring opening of the obtained sample by using catalyst	Feb 2016
Determination the biodegradable properties of the final product	Mac 2016

REFERENCES

Students are encouraged to refer to **books, journals, and conference papers** – please **minimize internet references**. References must be presented in **APA style**. In APA style, in-text citations are placed within sentences and paragraphs and whose information is being cited.

Works by a single author

The last name of the author and the year of publication are inserted in the text at the appropriate point

E.g. from heury on bounded ratuinality (Adams, 1991).

If the name of the author or the date appear as part of the narrative, cite only missing information in parentheses.

E.g. Adams (1991) posited that

Works by multiple authors

When a work has two authors, always cite both names every time the reference occurs in the text. In parenthetical material join the names with an ampersand (&).

E.g. as has been shown (Bello & Sule, 2012)

In the narrative text, join the name with word “and”

E.g. As Bello and Sule (2012) demonstrated

When a work had more than two, include only the surname of the first author followed by “et al.” (Latin for “and others”) and the year of publication

E.g. juice density of 1.0833 kg/L (Buchert et al., 2005)

In the narrative text

Eg. Buchert et al. (2005) found

Works by associations, corporations, government agencies, etc

The names of groups that serve as authors (corporate authors) are usually written out each time they appear in a text reference.

E.g. (National Institute of Mental Health (NIMH), 2007)

When appropriate, the names of some corporate authors are spelled out in the first reference and abbreviated in all subsequent citation. The general rule for abbreviating in this manner is to supply enough information in the text citation for a reader to locate its source in the Reference List without difficulty.

Works with no author

When a work has no author, use the first two or three words of the work’s title (omitting any initial articles) as your text reference, capitalizing each word. Place the title in quotation marks if it refers to an article, chapter of a book, or Web page. Italicize the title if it refers to a book, periodical, brochure, or report.

E.g. On climate change (“Climate and Weather”, 1997)

Guide to Agricultural Meteorological Practices (1981)

Anonymous authors should be listed as much followed by a comma and the date.

Eg. On climate change (Anonymous, 2008)

Citation Format

Journal (do not abbreviate single word journals):

Name, I., Name, I. and Name, I. 2000. Title not in capitals. *Journal in Full and Italic*, Edition:pages-pages.

Buchert, J., Koponen, J.M., Suutarinen, M., Mustranta, A., Lille, M., Torronen, R. & Poutanen, K. 2005. Effect of enzyme-aided pressing on anthocyanin yield and profiles in bilberry and blackcurrant juices. *Journal of the Science of Food and Agriculture*, 85, 2548-2556.

Book (including theses):

Name, I., Name, I. and Name, I. 2000. *The Exact Title in Capitals*. Volume. Edition. Series. Thesis. Publisher, City.

Boziaris, I. S. 2014. *Novel Food Preservation and Microbial Assessment Techniques*: Science Publishers. United States.

Carlson, J. S. 2003. *Processing effects on the antioxidant activities of blueberry juice*. Master of Science Thesis, North Carolina State University, North Carolina, United States.

Book chapter (if conference proceedings published, format conference like this as well):

Name, I., Name, I. and Name, I. Year. The title not in capitals. p.xx-xx. In: I, Name, I Name and I. Name (eds.), *The Exact Title in Capitals*. Publisher, City.

Downes, J. W. 1995. Equipment for extraction of soft and pome fruit juices. In P. R. Ashurst (Ed.), *Production and Packaging of Non-Carbonated Fruit Juices and Fruit Beverages* (pp. 197-220): Blackie Academic & Professional, London.

Conference proceedings

Name, I., Name, I. and Name, I. 2000. Title of paper not in capitals. *The Title of Conference in Capitals*. City, Country x-x, Month. p.xx-xx.

Hurst, R.D., Carr, A.J. & Heyes, J.A. 2013. Effect of berry blanching on phytochemicals and physicochemical properties of blueberry juice. *Proceeding of FVHH 2013 International Symposium on Quality Management of Fruits and Vegetable for Human Health*. August 5-8, 2013, Golden Tulip Sovereign Hotel, Bangkok, Thailand. 151-157.

Website (DO NOT CITE WEBSITES for documents that are published; DO NOT cite secondary literature; e.g. Wikipedia is – by definition – secondary literature)

Publisher. 200x. Address not hyperlinked nor with http

Food and Agricultural Organization. 2002. www.fao.org

APPENDIX

Reference list

All references is listed by alphabetical order

- Adams, J. B. (1991). Review: Enzyme inactivation during heat processing of food-stuffs. *International Journal of Food Science & Technology*, 26(1), 1-20.
- Bello, A., & Sule, M. (2012). Optimum temperature and thermal stability of crude polyphenol oxidase from some common fruits. *Nigerian Journal of Basic and Applied Science*, 20(1), 27-31.
- Boziaris, I. S. 2014. *Novel Food Preservation and Microbial Assessment Techniques*: Science Publishers. United States.
- Buchert, J., Koponen, J. M., Suutarinen, M., Mustranta, A., Lille, M., Törrönen, R., & Poutanen, K. (2005). Effect of enzyme-aided pressing on anthocyanin yield and profiles in bilberry and blackcurrant juices. *Journal of the Science of Food and Agriculture*, 85(15), 2548-2556.
- Carlson, J. S. 2003. *Processing effects on the antioxidant activities of blueberry juice*. Master of Science Thesis, North Carolina State University, North Carolina, United States.
- Downes, J. W. 1995. Equipment for extraction of soft and pome fruit juices. In P. R. Ashurst (Ed.), *Production and Packaging of Non-Carbonated Fruit Juices and Fruit Beverages* (pp. 197-220): Blackie Academic & Professional, London.
- Food and Agricultural Organization. 2002. www.fao.org
- Hurst, R.D., Carr, A.J. & Heyes, J.A. 2013. Effect of berry blanching on phytochemicals and physicochemical properties of blueberry juice. *Proceeding of FVHH 2013 International Symposium on Quality Management of Fruits and Vegetable for Human Health*. August 5-8, 2013, Golden Tulip Sovereign Hotel, Bangkok, Thailand. 151-157.

Link to page number

https://www.youtube.com/watch?v=SYZi8T_bVpU