BACHELOR THESIS GUIDEBOOK

FACULTY OF AGRICULTURAL TECHNOLOGY
UNIVERSITAS BRAWIJAYA
2022/2023

BACHELO THESIS GUIDEBOOK
UNDERGRADUATE PROGRAM

FACULTY OF AGRICULTURAL TECHNOLOGY
UNIVERSITAS BRAWIJAYA
2022/2023

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FOREWORD

The Bachelor Thesis is an important stage in completing the study of undergraduate students (S-1) at the Faculty of Agricultural Technology, Universitas Brawijaya. In the preparation of the bachelor Thesis involves several parties including students, supervisors, examiners, department managers. The Bachelor Thesis can be used as a benchmark to assess a student's ability to express ideas and analyzes about a particular scientific field in written form.

This Bachelor Thesis Guide is expected to serve as a reference for various parties involved in completing a student's bachelor Thesis so that the student's study process is more focused, structured, and smoothly in accordance with the goals set.

In this book, it is very likely that there are still some shortcomings, weaknesses, and are not in accordance with the conditions of each department. Therefore, the things that are still lacking in this bachelor Thesis guide need to be improved in the preparation of the bachelor Thesis guide in the future.

Malang, April 2022
Dean,

Prof. Dr. Ir. Imam Santoso, MP
NIP19681005 199512 1 001

KEPUTUSAN
DEKAN FAKULTAS TEKNOLOGI PERTANIAN
UNIVERSITAS BRAWIJAYA
NOMOR 97 TAHUN 2021

Tentang

PANDUAN TUGAS AKHIR PROGRAM STUDI SARJANA (SKRIPSI)
FAKULTAS TEKNOLOGI PERTANIAN UNIVERSITAS BRAWIJAYA
TAHUN AKADEMIK 2021/2022

DEKAN FAKULTAS TEKNOLOGI PERTANIAN UNIVERSITAS BRAWIJAYA

Menimbang :

a. Bahwa dengan diterbitkannya Pedoman Pendidikan Universitas Brawijaya Tahun Akademik 2021/2022, maka Panduan Tugas Akhir Program Studi Sarjana (Skripsi) Fakultas Teknologi Pertanian perlu disempurnakan agar sesuai dengan ketentuan-ketentuan yang ada pada Pedoman tersebut.
b. Sehubungan dengan butir a diatas, perlu diterbitkannya Panduan Tugas Akhir Program Studi Sarjana (Skripsi) Fakultas Teknologi Pertanian Universitas Brawijaya Tahun Akademik 2021/2022.

Mengingat :

1. Undang-Undang RI Nomor: 20 tahun 2003 tentang Sistem Pendidikan Nasional
2. Undang-Undang Republik Indonesia Nomor 12 Tahun 2012 tentang Pendidikan Tinggi
3. Peraturan Pemerintah Republik Indonesia nomor : 17 tahun 2010 tentang Pengelolaan dan Penyelenggaraan Pendidikan
4. Keputusan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor:012a/O/1998 tentang Pendirian Fakultas Teknologi Pertanian
5. Keputusan Menteri Pendidikan Nasional Republik Indonesia nomor : 080/O/2002 tentang Statuta Universitas Brawijaya.
6. Peraturan Menteri Pendidikan dan Kebudayaan No. 3 Tahun 2020 tentang Standar Nasional Pendidikan Tinggi
7. Keputusan Rektor Universitas Brawijaya No. 308 Tahun 2019 tentang Pemberhentian dan Pengangkatan Dekan Fakultas Teknologi Pertanian Universitas Brawijaya.
8. Peraturan Rektor Universitas Brawijaya Nomor 52 Tahun 2018 Tentang Publikasi Ilmiah sebagai Bagian Tugas Akhir Pendidikan Program Magister dan Program Doktor

MEMUTUSKAN

Menetapkan :

Kesatu : Tim Penyusun Panduan Tugas Akhir Program Studi Sarjana (Skripsi) Fakultas Teknologi Pertanian Universitas Brawijaya Tahun Akademik 2021/2022 sebagaimana yang tercantum dalam lampiran Surat Keputusan ini.

Kedua : Panduan Tugas Akhir Program Program Studi Sarjana (Skripsi) Fakultas Teknologi Pertanian Universitas Brawijaya Tahun Akademik 2021/2022 sebagai pengganti buku panduan Tugas Akhir Program Studi Sarjana (Skripsi) sebelumnya dan menjadi acuan seluruh unit pelaksana akademik di Fakultas Teknologi Pertanian Universitas Brawijaya.

Ketiga : Keputusan ini berlaku sejak tanggal ditetapkan dan apabila di kemudian hari terdapat kekeliruan dalam keputusan ini akan diadakan perbaikan sebagaimana mestinya.

Ditetapkan di : Malang
Pada tanggal : 15 Agustus 2021
Dekan,

IMAM SANTOSO
NIP. 196810051995121001

Tembusan :
1. Wakil Dekan di lingkungan FTP-UB
2. Ketua Jurusan di lingkungan FTP-UB
3. Koordinator Tata Usaha FTP-UB
4. Sub Koordinator Subbagian di lingkungan FTP-UB

LAMPIRAN I : KEPUTUSAN DEKAN
FAKULTAS TEKNOLOGI PERTANIAN
NOMOR 97 TAHUN 2021
TANGGAL 15 AGUSTUS 2021

TIM PENYUSUN PANDUAN TUGAS AKHIR PROGRAM STUDI SARJANA
(SKRIPSI)
FAKULTAS TEKNOLOGI PERTANIAN UNIVERSITAS BRAWIJAYA
TAHUN AKADEMIK 2021/2022

Pengarah	:	Prof. Dr. Ir. Imam Santoso, MP
Ketua	:	Prof. Dr. Teti Estiasih, STP., MP
Sekretaris	:	Dego Yusa Ali, STP, MSc
Anggota	:	1. Dr. Widya Dwi Rukmi Putri., STP., MP 2. Achmad Adi Sulianto, Dr. Eng., STP., M.Eng 3. Dr. Siti Asmaul Mustaniroh, STP., MP 4. Wenny Bekti S, STP.,M.Food.St.,Ph.D. 5. Dr. Mohammad Bagus Hermanto, S.TP.,M.Sc. 6. Sri Suhartini, STP., M.Env.Mgt.,Ph.D 7. Siti Narsito Wulan, STP.,MP.,Ph.D. 8. Tunjung Mahatmanto, STP.,MP.,Ph.D. 9. Wike Agustin Prima Dania, STP, M.Eng, Ph.D 10. Dr. Musthofa Lutfi, STP.,MP. 11. Fajri Anugroho, STP.,M.Agr.,Ph.D. 12. Yusuf Wibisono, STP.,M.Sc.,Ph.D. 13. Freini Dessy Effendi, STP, MP, MSc. 14. Ahmad Zaki Mubarok, STP, M.Si. PhD

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PART I
BACHELOR THESIS IMPLEMENTATION (SKRIPSI)

1. Limitation and Status of Bachelor Thesis

The Bachelor Thesis is a written scientific work compiled by students, from the results of research, internships, entrepreneurship, technological design works, or works from scientific competitions with certain conditions, in accordance with scientific rules and ethics under the guidance of competent lecturers and is a reflection of students' abilities in apply science, technology, arts and or humanities in a certain scientific scope. The bachelor Thesis must be prepared/implemented by every undergraduate student.

2. Bachelor Thesis Objectives

The preparation of the Bachelor Thesis is intended to provide basic provisions for students in compiling a written scientific work to pour critical power, analysis and synthesis of students on a phenomenon or problem by paying attention to the development of science, technology, arts and humanities, from the perspective of the scope of the scientific field in the program. study in which the student is enrolled.

3. Forms of Activities for Compiling the Bachelor Thesis

The data/information used as the basis for the preparation of the Bachelor Thesis can be obtained from the following types of activities: research, internships, and entrepreneurship, technological design works, and Scientific Competitions. The limits for each form of activity are as follows:

Table 1. Types of Bachelor Thesis

Type of Bachelor Thesis	Toblatantly
Research (6 credits)	shapek research activities in the form of laboratory or field experimental research, simulations/modeling, surveys, or case studies in companies
Internship (6 credits)	Bachelor Thesis withn the purpose of analyzing the performance or problems that exist in the industry. Internship activities are required to be in accordance with the science in the study program and must meet scientific principles which include problem identification, data collection, data analysis and conclusions. The duration of the internship is equivalent to 60 effective working days.@8 hours/day.
Technology Design (6 credits)	designn or designing futuristic concept-based equipment or software to solve existing problems or anticipate problems that may occur in the future
Entrepreneurship (6 credits)	shapek entrepreneurial activities related to agricultural technology disciplines starting from planning, implementing, managing, controlling, and evaluating business development activities. The minimum effort has been running for 6 months before the Bachelor Thesis Exam is carried out which is shown by proof of the cashflow book, as well as proof during the visitation.

Type of Bachelor Thesis	Toblatantly
Scientific Competition (6 credits)	Students who are ranked 1-3 in national and international competitions, are Pimnas finalists, or become finalists in international competitions in accordance with the disciplines of agricultural technology, all team members are awarded free Bachelor Thesis Exams. Requirements for Scientific Competition: 1. One of the Bachelor Thesis Supervisors from the appropriate study program 2. Topics in accordance with the field of agricultural technology 3. There is a final task completion process such as adding data if needed and a mentoring process to get the weight of a scientific work equivalent to a thesis 4. The requirements for organizing national competitions are those organized by government agencies or other credible institutions such as LIPI, Kemenristekdikti, Kemenpora etc. on the condition that the competition goes through a research process or the output produced in the form of scientific papers. 5. PKM which are recognized as equivalent to thesis are PKMP, PKMT, and PKMKC, while those that are not equivalent to thesis are PKM-AI, PKM GT, and PKMM 6. The topic that is used as a thesis so that it gets an exam-free award must come from the scientific work being competed, not from other topics.

4. Substance and Depth of bachelor thesis

Bachelor Thesis is a scientific work that examines theory, application of science, and technology for solving real problems or scientific work on entrepreneurship with substances according to the field of agricultural technology.

5. Student Requirements, Obligations, and Rights

a. Students can carry out a series of activities related to the Bachelor Thesis after fulfilling the academic and administrative requirements according to the provisions set by the Faculty.
b. Students are required to compile a Bachelor Thesis based on ethics and scientific manners, honest and free from plagiarism elements
c. All forms of output in the form of intellectual property rights, articles in scientific journals, etc., which are related to the material/substance of the Bachelor Thesis are shared rights between students and their supervisors as well as the university.
d. In the event that the implementation of the research is a collaboration of other parties, the right to use data and all forms of output in the form of intellectual property rights and other forms are regulated in a cooperation agreement approved by the Dean.
e. The provisions of ownership and intellectual property rights resulting from the implementation/compilation of the Bachelor Thesis are regulated separately by the Chancellor.

6. Bachelor Thesis Requirements

A student who has met the requirements is allowed to program the Bachelor Thesis. The requirements for programming the Bachelor Thesis are as follows:

a. Registered as a student in the academic year concerned.
b. Collect a minimum number of 110 credits.
c. Cumulative IP at least 2.00.
d. Has had a Bachelor Thesis Supervisory Lecturer determined by the Department. Determination of the Bachelor Thesis Supervisory Lecturer at the latest in semester 5.

7. Bachelor Thesis Credit Score

The final credit score for the undergraduate program is as follows:

a. Seminar which is the preparation of bachelor thesis and oral presentation (seminar) of 1 credit, TPF60119)

b. Implementation of the bachelor thesis of 6 credits (UBU60001) in the form of one of the following forms:

Research	: 6credits
Internship	: 6credits
Technology Design	: 6 credits
Entrepreneurship	: 6credits
Scientific Competition	: 6 credits

8. Duration of Bachelor Thesis Completion

a. The preparation of the Bachelor Thesis Proposal (1 credit) and the seminar can be programmed in a different semester or the same as the implementation of the bachelor thesis (6 credits). Students must program the MK Seminar (Bachelor Thesis Proposal) in SPS (Study Plan Sheet), and if the semester is not completed, the score will be E.
b. The implementation of the Bachelor Thesis must be completed within 6 (six) months since the bachelor Thesis is programmed in the SPS (Study Plan Sheet). If you don't finish, your grade for that semester will be E.
c. Extension of time from the specified time limit must be informed by the Supervisor and approved by the Head of the Department.

9. Bachelor Thesis Supervisor

To make a Bachelor Thesis, a student is guided by a minimum of one supervisor.

a. Supervisor Requirements:
   1) The preparation of the Bachelor Thesis is guided by at least one supervisor who has at least the position of Lector with the academic qualifications of Masters or Expert Assistants with the academic qualifications of Doctorate in the appropriate field of science, or in one scientific clump according to the study program in which the student is registered. If there is a Co-Supervisor, the Co-Supervisor has at least the position of Expert Assistant with a Master's academic qualification in the appropriate field of science, or in one scientific clump according to the study program in which the student is enrolled.
   2) The Supervisor for "Scientific Competition" equivalent to a thesis is a supervisor for Scientific Competition from the Faculty of Agricultural Technology, Universitas Brawijaya who meets the requirements in point 1. If the supervisor for Scientific Competition does not meet these requirements, the supervisor will become the second supervisor.
   3) Special Co-Supervisor are accompanying supervisors who come from agencies or companies and have the required competencies.
b. Determination of Supervisors:

The Head of the Study Program proposes the Main Supervisor and Co Supervisor through the Head of the Department and is determined by the Dean no later than semester 5.

c. Supervisor Duties and Responsibilities:
   1) The main Supervisor's duties and responsibilities are:
      a) Assist students in finding problems that are used as the basis for making Bachelor Thesiss.
      b) Guiding and monitoring students in the implementation of the Bachelor Thesis.
      c) Guiding students in writing the Bachelor Thesis.
   2) The duties and obligations of the Co Supervisor are to assist the Main Supervisor in carrying out the supervision of the student's bachelor Thesis.

10. Bachelor Thesis Procedure

1. Implementation of the preparation of proposals and seminars (MK Seminar FPF60119, 1 credit)

a. After obtaining a supervisor and final assignment requirements, students consult with supervisor 1 (and supervisor 2 if any) and begin to prepare proposals for the bachelor Thesis in the form of research proposals, internships, entrepreneurship, or technological design works.

b. Students and supervisors must hold meetings periodically to monitor the progress of proposals, research implementation, and preparation of bachelor thesis manuscripts. Each supervisor gets a student guidance card which is filled out by each student guidance and the card is stored by the lecturer (white card) and students (blue card).

c. After the proposal is prepared and approved by the supervisor, the student conducts an open proposal seminar attended by other students with a minimum number of 10 student participants, unless there is a special policy set by the Head of the Department or Head of the Study Program.

d. The study program arranges and schedules the implementation of the MK Seminar for students who have programmed at SPS (Study Plan Sheet) in the same semester.

e. Proposal seminars are attended by supervisors with/without examiners and assessments for proposal seminars are arranged in each department.

   The minimum number of students who must attend is 10 students, unless there are special considerations approved by the Head of the Study Program or the Head of the Department.

f. Students have the right to ask for a proposal seminar after five consultations and approved by the supervisor, if the proposal is feasible even though it has not been consulted five times, students are allowed to carry out proposal seminars

g. Students carry out activities for the preparation of the bachelor Thesis (Bachelor Thesis Course UBU60001, 6 credits) including research, internships, design of technological design works, and others according to the type of bachelor Thesis taken. During the implementation of the bachelor Thesis, students are required to consult with supervisor 1 (and supervisor 2 if any) and consultation activities must be recorded in a logsheet which can be seen in Appendix 11. The logsheet must be signed by the supervisor every time there is a consultation.

h. During data collection activities, students are required to record activities in a logbook in accordance with Appendix 12. The logbook is signed by the party verifying data

collection activities such as technicians/laborers if the bachelor thesis is research and Technology Design, supervisor from the company if it is in the form of an internship,

i. Students prepare a draft of the bachelor Thesis in consultation with the supervisor. Consultation activities should be recorded in a logsheet.

j. Students are required to check plagiarism using software under the supervision of a supervisor or FTP Journal Clinic or a credible institution with a plagiarism level of no more than 30% for Chapters I, II, and IV. Revisions must be made until the bachelor thesis draft is stated to have a maximum plagiarism level of 30% as a requirement for the final exam. The plagiarism free form can be seen in Appendix 13. which is signed by the supervisor if the supervisor checks with software or is signed by a Journal Clinic or other credible institution.

k. After the supervisor approves the bachelor thesis draft and the requirements for the final exam are met, students carry out the Bachelor Thesis Exam.

l. After completing the final exam, if it is declared passed, students are required to revise the bachelor thesis in accordance with the advice of the Examiner Council. Revisions must be made no later than 1 month since the final exam and if it is more than one month the bachelor thesis value decreases according to the following table:

No.	delay	Decreasing Value
1.	1 month	grade
2.	2 months	1 grade
3.	3 months	Repeat Exam

m. After completing the revision, students are required to check plagiarism using software or the FTP Journal Clinic or a credible institution with a plagiarism level of no more than 30% for Chapters I, II, and IV. Revisions must be made until the bachelor thesis is declared a maximum plagiarism level of 30%.

n. Next, students complete the documents for the judiciary.

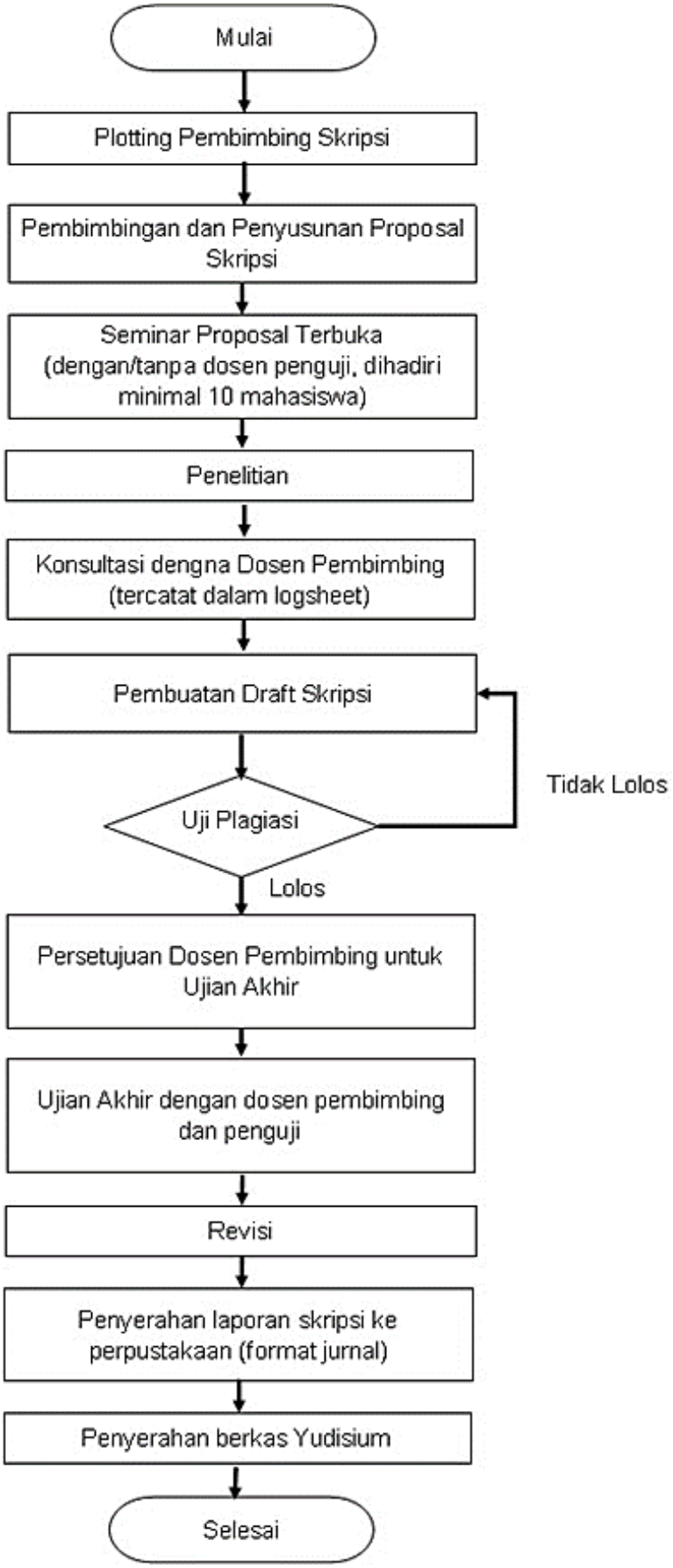

Figure 1. Flowchart of the implementation of the final thesis

11. Implementation of the Bachelor Thesis

a. Requirements for Taking the Final Assignment Examination for the Undergraduate Program

A student is allowed to take the undergraduate bachelor Bachelor Thesis Examination if he fulfills the following requirements:

1) Registered as a student in the academic year concerned.
2) Have a minimum of 138 credits, excess credits cannot be deleted.
3) Cumulative IP at least 2.00.
4) D and D+ grades are not more than 10% of the total credits.
5) There is no final value of E.
6) Have completed the Bachelor Thesis.
7) Show proof of plagiarism free.

b. Procedures for Applying for the Undergraduate Bachelor Bachelor Thesis Examination

The procedure for applying for examinations for all forms of the Bachelor Thesis is determined by the Department by taking into account administrative and academic requirements.

If the student who has not submitted a Bachelor Thesis Examination until the time limit has been determined, the Study Program will schedule the final examination in the semester in which the student is programming in the SPS (Study Plan Sheet).

c. The Nature and Purpose of the Final Assignment Examination for the Undergraduate Program

1) The undergraduate bachelor Thesis Exam is the final exam that students must take as a condition for obtaining a bachelor's degree.
2) The undergraduate bachelor Bachelor Thesis Examination is comprehensive.
3) The Bachelor Bachelor Thesis Examination is conducted orally and aims to evaluate students in mastery of science and application of technology according to their field of expertise.
4) The undergraduate bachelor Thesis Exam aims to equip students with competencies that are considered weak.
5) The Final Assignment Examination can be conducted in an open form which is attended by students or a closed examination which is only attended by the supervisor and examiner lecturer.
6) The Final Assignment Exam is carried out for a maximum of 90 minutes with the division of time arranged in each department

d. Bachelor Thesis Assessment

1) Bachelor Thesis Assessment is carried out starting from the proposal preparation process, implementation, reporting and examination.
2) Bachelor Thesis Assessment is carried out in accordance with the assessment rubric contained in the attachment of part one as follows:
   a) The rubric for the assessment of the Bachelor Thesis Proposal is in attachment 1.1
   b) The rubric for the assessment of the Bachelor Thesis Proposal seminar is in appendix 1.2.
   c) The rubric for the assessment of the Bachelor Thesis Report is in appendix 1.3.
   d) The rubric for the assessment of the bachelor thesis is in appendix 1.4.
   e) Assessment of bachelor thesis guidance in appendix 1.5
   f) Bachelor Thesis Exam assessment form in attachment 1.6

g) Compilation form for Bachelor Thesis Assessment in attachment 1.7

3) The Bachelor Thesis is tested by the Examining Lecturer Council with a minimum of 3 (three) and a maximum of 4 (four) people, including the Supervisory Lecturer
4) The qualification of the Examiner Lecturer is at least the same as the qualification of the Main Supervisory Lecturer
5) The chairman of the board of examiners leads the deliberation to determine the final score of the exam which is stated by the letters A, B+, B, C+, C, D+, D, or E. To be declared to have passed the undergraduate bachelor Bachelor Thesis Examination, a student must at least achieve a C grade.
6) Students who are declared not to have passed the final task exam must carry out the decision of the examiner board.
7) Those assessed in the undergraduate bachelor Thesis Exam include:
   a. The quality of scientific work which includes academic weight and writing procedures.
   b. Appearance during the exam.
   c. Mastery of the material shown in answering questions from the Examiner Board.
   d. The components and weights of the final exam assessment are listed in the scoring rubric in appendix part one, appendix number 1.4.

e. Board of Examiners for the Undergraduate Bachelor Bachelor Thesis Examination

1) The Board of Examiners is determined by the Dean at the suggestion of the Head of the Department/Study Program.
2) The structure of the Examiner Council consists of a Chair who is concurrently the Main Supervisory Lecturer and 2-3 examiners.
3) The Board of Examiners is a lecturer who meets the following requirements: Lector for holders of a minimum S-2 (Master) diploma or Expert Assistant for holders of a S-3 (Doctoral) diploma. Determination of the board of examiners beyond the above requirements is determined by the Dean at the suggestion of the Head of the Department.
4) Examiners who are not supervisors can be appointed from other agencies with fields of knowledge that are in accordance with the student's Bachelor Thesis determined by the Dean at the suggestion of the Head of the Department.
5) Duties of the Examinations Council for the Undergraduate Bachelor Bachelor Thesis Examination:
   a) The chairman of the board of examiners is in charge of managing the smooth implementation of the exam and has the right to provide an assessment.
   b) The board of examiners is in charge of testing and providing an assessment.

12. Bachelor's Degree

A student can take a Bachelor's Degree if he fulfills the following requirements:

a. Have completed all compulsory courses, namely national content courses, university content and faculty/study programs.
b. Has revised the Bachelor Thesis and was approved by the Examiner Council and obtained a minimum grade of C.
c. Have collected the Bachelor Thesis which is printed with a light blue cover and in the form of a CD (which contains the bachelor Thesis) and has been approved by the Supervisory Lecturer and has been approved by the Examiner Council and the Head of the Department. Mandatory to distribute manuscripts/CDs/bachelor Thesis files to:

1) Main Supervisory Lecturer (depending on the supervisor's policy whether hardcopy A4/A5 or softfile)
2) Supervisory Lecturer (depending on the supervisor's policy whether hardcopy A4/A5 or softfile)
3) Faculty Reading Room (softfile and A4 harcopy)
4) Universitas Brawijaya Library (softfile and hardcopy A5)

d. Does not exceed the maximum study period of 7 (seven) years.
e. Has uploaded the title and thesis approval at SIAM.
f. Have paid tuition for the semester in question
g. Have collected soft files in CD and print out:
   1) Journal manuscript
   2) Poster in A4 size printed on glossy paper
h. The format of the Bachelor Thesis which is collected for the Reading Room and Library of Universitas Brawijaya follows a separate format set out in this guidebook.
i. It is mandatory to upload the bachelor thesis according to the file format submitted to the Library and Reading Room according to the format in Appendix 14 to the Higher Education Repository (by UB Central Library) which is integrated in the MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY's Student Final Assignment repository portal (rama.ristekdikti.go.id) unless published in the journal.
j. If a student is late in collecting all the completeness of the judicial documents more than 1 month after the final exam is carried out, then as a sanction a grade reduction will be given as follows:

No.	Lateness	Impairment
1.	1 month	½ grade
2.	2 months	1 grade
3.	3 months	Repeat Exam

13. Predicate graduation

a. Predicate Graduation consists of 3 levels, namely satisfactory, very satisfactory and with honors stated on the academic transcript. The Grade Point Average (GPA) is the basis for determining the graduation predicate:
   GPA : 2.00 < GPA < 2.75 : Enough
   GPA : 2.75 < GPA < 3.00 : Satisfactory
   GPA : 3.00 < GPA < 3.50 : Very Satisfactory
   GPA : 3.50 < GPA < 4.00 : Compliments (Cum Laude)
b. Requirements for the predicate "With Praise" for regular program students
   1. Maximum study period 4 years
   2. Never been subject to disciplinary sanctions
   3. Never been subject to academic sanctions
   4. No C/C+ value (minimum B).
d. Specifically for transfer students, the 'Praise' graduation predicate is determined based on the calculation method as follows:
   1) The cumulative value of 70-80 credits is recognized (based on the relevant Dean's Decree) plus 65 credits that have been taken at the Faculty of Agricultural Technology (based on the relevant Dean's Decree),
   2) The maximum study period is 2 years or 4 semesters.
e. The timing of the Yudisium is regulated by the Faculty based on the Decree of the Dean of the Faculty of Agricultural Technology, Universitas Brawijayai

14. Sanctions

a. Students who do plagiarism will be penalized in the form of repetition of research or the value of the bachelor thesis will be canceled if they have taken the exam.
b. The value of the bachelor thesis will be canceled if the bachelor thesis is done by someone else or the degree will be canceled if the student has graduated.
c. If during the mentoring it is known that the bachelor thesis draft was done by another, then the student must change the bachelor thesis topic to a new topic.
d. Falsification (changing data) and fabrication (making data) then the research must be repeated.

Appendix 1.1. Bachelor Thesis Proposal Assessment Rubric

CPMK	CPMK Description	Scoring Criteria	Bad <55	Enough 55 - <70	Well 70 - <80	Very good 80 - 100
(1)	(2)	(3)	(5)	(6)	(7)	(8)
CPMK 1	Able to formulate problems	The problem formulation is very clear and well written which is characterized by: 1. The formulation of the problem to be studied is stated in clear sentences 2. Supported by up-to-date and relevant literature (last 10 years) 3. The problems studied are up to date, there is no plagiarism or repetition, the depth is suitable for the bachelor thesis 4. Goals are clear and in line with the method 5. The benefits are well formulated and the benefits to society and science and technology are well illustrated 6. Sentences are well structured, following the rules of PUEBI (General Indonesian Spelling Guidelines)	The formulation of the problem is not clear and well written with characteristics of less than 50% fulfilling a very good and clear problem formulation as in column 3	The formulation of the problem is written quite clearly and quite well with the characteristics of meeting 50-<75% very good and clear problem formulation as in column 3	The problem formulation is written clearly and well with the characteristics of meeting 75-<100% very good and clear problem formulation as in column 3	The problem formulation is written very clearly and well with the characteristics of meeting 100% of the excellent and clear problem formulation as in column 3
CPMK 2	Able to search scientific literature and compile it systematically	The Literature Review is very clearly and very well written which is characterized by: 1. Relevant cited libraries 2. As many as 50% of the libraries cite the primary library 3. 50% of the literature cited is up to date (last 10 years) 4. Arranged systematically and coherently 5. Very closely related to the topic being studied, it is not a snippet of writing from various sources 6. Does not indicate plagiarism 7. Depth of literature review is very good	The Literature Review is written in a clear and well-written manner which is characterized by the fulfillment of the criteria in column 3 of less than 50%.	The Literature Review is written quite clearly and quite well, which is characterized by 50-<75% of the criteria in column 3 being met.	The Literature Review is written clearly and well, which is characterized by 75-<100% of the criteria in column 3 being met.	The Literature Review is written very clearly and well which is characterized by 100% of the criteria in column 3 being met.

CPMK	CPMK Description	Scoring Criteria	Bad <55	Enough 55 - <70	Well 70 - <80	Very good 80 - 100
(1)	(2)	(3)	(5)	(6)	(7)	(8)
CPMK 3	Able to develop or design scientific activities	Very clearly and very well written method which is characterized by: 1. It is clear the design used 2. The latest design, reliable, repeatable, depth according to the bachelor thesis 3. It is clear that the implementation plan will be carried out 4. It is clear how the data analysis method will be used 5. The data analysis used is relevant to the objectives 6. Can answer the hypothesis if any 7. Supported by up-to-date literature	The method is not clearly and well written which is characterized by less than 50% of the criteria in column 3.	The method is written quite clearly and quite well, which is characterized by 50-<75% not meeting the criteria in column 3.	The method is written clearly and well characterized by 75-<100% not meeting the criteria in column 3.	The method is written very clearly and very well which is characterized by 100% non-fulfillment of the criteria in column 3.
CPMK 8	Able to present scientifically a Bachelor Thesis Proposal in written form	Excellent proposal writing characterized by: 1. In accordance with the FTP UB Bachelor Thesis Writing Guidelines for formatting, table writing, image inclusion, bibliography writing, library citation methods, etc. 2. Following the PUEBI rules 3. Aesthetic and delicious layout 4. Writing is easy to understand and understand 5. Writing concise, short, and clear sentences	Malang proposal writing characterized by less than 50% of the criteria in column 3 are met.	The writing of the proposal is quite good, which is characterized by the fulfillment of the criteria in column 3 of 50-<75%.	Writing a good proposal is characterized by the fulfillment of the criteria in column 3 of 75-<100%.	The writing of the proposal is very good which is characterized by the fulfillment of the criteria in column 3 by 100%.
CPMK 9	1. Able to present orally a Bachelor Thesis Proposal	Excellent proposal presentation characterized by 1. Sufficient mastery of knowledge related to the topic being studied	Malang proposal presentation characterized by less than 50% of the	The proposal presentation is quite good, which is characterized by 50-	Good proposal presentation characterized by 75-	The presentation of the proposal is very good which is characterized by

CPMK	CPMK Description	Scoring Criteria	Bad <55	Enough 55 - <70	Well 70 - <80	Very good 80 - 100
(1)	(2)	(3)	(5)	(6)	(7)	(8)
		2. Power point: in the form of points not sentences, artistic, interesting, aesthetic 3. Presentation with appropriate voice intonation, not too fast or slow, not memorized, mastering the audience, mastering the material 4. Precise and appropriate timing	criteria in column 3 are met.	<75% of the criteria in column 3 being met.	<100% criteria in column 3 are met	100% of the criteria in column 3 being met
	2. Able to explain the scientific basics underlying the Bachelor Thesis Proposal	Excellent mastery of the theoretical basis underlying the Bachelor Thesis Proposal, which is characterized by 1. Able to explain the theoretical basis that underlies the Bachelor Thesis Proposal appropriately 2. Able to link theory with thesis plan 3. Mastering the method in Bachelor Thesis Proposals very well	Mastery of the basic theory that underlies the Bachelor Thesis Proposal is very lacking	Mastery of the basic theory that underlies the Bachelor Thesis Proposal quite well	Good mastery of the basic theory underlying the Bachelor Thesis Proposal	Very good mastery of the basic theory underlying the Bachelor Thesis Proposal
	3. Understand and be able to explain the writing in the proposal	Excellent mastery of Bachelor Thesis Proposals characterized by 1. Able to explain the meaning of the writing in the Bachelor Thesis Proposal appropriately 2. Able to answer questions and discussions very well	Unable to explain the writing in the proposal and answer questions	Good enough in explaining the writing in the proposal and answering questions	Can explain the writing in the proposal and answer questions well	Can explain the writing in the proposal and answer questions very well

Appendix 1.2. Bachelor Thesis Proposal Seminar Assessment Rubric

No.	CPMK	Components (with assessment according to the rubric)	Criteria	%
1.	CPMK 1	Able to formulate problems	The problem formulation is very clear and well written which is characterized by: 1. The formulation of the problem to be studied is stated in clear sentences 2. Supported by up-to-date and relevant literature (last 10 years) 3. The problems studied are up to date, there is no plagiarism or repetition, the depth is suitable for the bachelor thesis 4. Goals are clear and in line with the method 5. The benefits are well formulated and the benefits to society and science and technology are well illustrated 6. Sentences are well structured, following the rules of PUEBI (General Indonesian Spelling Guidelines)	15
2.	CPMK 2	Able to search scientific literature and compile it systematically	The Literature Review is very clearly and very well written which is characterized by: 1. Relevant cited libraries 2. As many as 50% of the libraries cite the primary library 3. 50% of the literature cited is up to date (last 10 years) 4. Arranged systematically and coherently 5. Very closely related to the topic being studied, it is not a snippet of writing from various sources 6. Does not indicate plagiarism 7. Depth of literature review is very good	10
3.	CPMK 3	Able to develop or design scientific activities	Very clearly and very well written method which is characterized by: 1. It is clear the design used 2. The latest design, reliable, repeatable, depth according to the bachelor thesis 3. It is clear that the implementation plan will be carried out 4. It is clear how the data analysis method will be used 5. The data analysis used is relevant to the objectives 6. Can answer the hypothesis if any 7. Supported by up-to-date literature	20
4.	CPMK 8	Able to present scientifically a Bachelor Thesis Proposal in written form	Excellent proposal writing characterized by: 1. In accordance with the FTP UB Bachelor Thesis Writing Guidelines for formatting, table writing, image inclusion, bibliography writing, library citation methods, etc. 2. Following the PUEBI rules 3. Aesthetic layout and easy to see/read 4. Writing is easy to understand and understand	10

			5. Writing concise, short, and clear sentences	
5.	CPMK 9	1 Able to present orally a Bachelor Thesis Proposal	Excellent proposal presentation characterized by 1. Sufficient mastery of knowledge related to the topic being studied 2. Power point: in the form of points not sentences, artistic, interesting, aesthetic 3. Presentation with appropriate voice intonation, not too fast or slow, not memorized, mastering the audience, mastering the material 4. Precise and appropriate timing	15
		2 Able to explain the scientific basics underlying the Bachelor Thesis Proposal	Excellent mastery of the theoretical basis underlying the Bachelor Thesis Proposal, which is characterized by 1. Able to explain the theoretical basis that underlies the Bachelor Thesis Proposal appropriately 2. Able to link theory with thesis plan 3. Mastering the method in Bachelor Thesis Proposals very well	15
		3 Understand and be able to explain the writing in the proposal	Excellent mastery of Bachelor Thesis Proposals characterized by 1. Able to explain the meaning of the writing in the Bachelor Thesis Proposal appropriately 2. Able to answer questions and discussions very well	15
	Amount			100

Appendix 1.3. Bachelor Thesis Report Assessment Rubric

CPMK	CPMK Description	Scoring Criteria	Bad <55	Enough 55 - <70	Well 70 - <80	Very good 80 - 100
(1)	(2)	(3)	(5)	(6)	(7)	(8)
CPMK 1	Able to formulate problems	The problem formulation is very clear and well written which is characterized by: 1. The formulation of the problem under study is stated in clear sentences 2. Supported by up-to-date and relevant literature (last 10 years) 3. The problems studied are up to date, there is no plagiarism or repetition, the depth is suitable for the bachelor thesis 4. Goals are clear and in line with the method 5. The benefits are well formulated and the benefits to society and science and technology are well illustrated 6. Sentences are well structured, following the rules of PUEBI (General Indonesian Spelling Guidelines)	The formulation of the problem is not clear and well written with characteristics of less than 50% meeting the formulation of the problem that is not good and clear as in column 3	The formulation of the problem is written quite clearly and well with the characteristics of meeting 50-<75% of the problem formulation which is quite good and clear as in column 3	The formulation of the problem is written clearly and well with the characteristics of meeting 75-<100% of a good and clear problem formulation as in column 3	The problem formulation is written very clearly and well with the characteristics of meeting 100% of the excellent and clear problem formulation as in column 3
CPMK 2	Able to search scientific literature and compile it systematically	The Literature Review is very clearly and very well written which is characterized by: 1. Relevant cited libraries 2. As many as 50% of the libraries cite the primary library 3. 50% of the literature cited is up to date (last 10 years) 4. Arranged systematically and coherently 5. Very closely related to the topic being studied, it is not a snippet of writing from various sources 6. Does not indicate plagiarism 7. Depth of literature review is very good	The Literature Review is written in a clear and well-written manner which is characterized by the fulfillment of the criteria in column 3 of less than 50%.	The Literature Review is written quite clearly and quite well, which is characterized by 50-<75% of the criteria in column 3 being met.	The Literature Review is written clearly and well, which is characterized by 75-<100% of the criteria in column 3 being met.	The literature review is written very clearly and very well which is characterized by 100% of the criteria in column 3 being met.

CPMK 3	1. Able to develop or design scientific activities	Very clearly and very well written method which is characterized by: 1. It is clear the design used 2. The latest design, reliable, repeatable, depth according to the bachelor thesis 3. It is clear that the implementation plan that has been carried out is clear 4. It is clear how to analyze the data used 5. The design and analysis of the data is in line with the results and discussion 6. The data analysis used is relevant to the objectives and results and discussion 7. Can answer the hypothesis if any 8. Supported by up-to-date literature	The method is not clearly and well written which is characterized by less than 50% of the criteria in column 3.	The method is written quite clearly and quite well, which is characterized by 50-<75% meeting the criteria in column 3.	The method is written clearly and well characterized by 75-<100% meeting the criteria in column 3.	The method is written very clearly and very well which is characterized by 100% fulfillment of the criteria in column 3.
	2. Activity depth and load	Excellent depth and load of activity characterized by 1. Activity load according to the bachelor thesis 6 credits 2. The depth of study is in accordance with the bachelor thesis 3. There are many things that must be learned in the implementation of this thesis 4. Authentic thesis and no similar studies 5. The method used is in accordance with the S1 . level	The depth and load of activities that are less characterized by the criteria in column 3 are met by less than 50%.	The depth and load of activities are quite good, which is characterized by the criteria in column 3 being met 50-<75%.	The depth and load of both activities characterized by the criteria in column 3 are met 75-<100%.	The depth and load of the activity is very good which is characterized by the criteria in column 3 being fulfilled 100%.
CPMK 4	Able to implement the activity plan (assessed by the supervisor)	Able to carry out activities well characterized by 1. The activity plan can be implemented properly 2. Responsible for carrying out activities 3. Able to overcome obstacles in the implementation of activities 4. Excellent discipline and time management to complete the bachelor Thesis on time 5. Tough and earnest				

		6. Good communication skills demonstrated by intensive consultation with supervisors				
CPMK 5	Able to analyze data, process, and present data	Able to analyze data, process and present which is characterized by: 1. Data processing is done properly 2. The results of statistical tests, if any, are carried out correctly 3. The data is presented in the form of tables or pictures or other accurately and the writing format follows the Guidebook for the Bachelor Thesis of FTP UB's Thesis	Less able to analyze data, process, present, and interpret data which is characterized by the fulfillment of the criteria in column 3 of less than 50%	Sufficiently able to analyze data, process, present, and interpret data characterized by the fulfillment of the criteria in column 3 of 50-<75%	Able to well analyze data, process, present, and interpret data which is characterized by the fulfillment of the criteria in column 3 of 75-<100%	Able to very well analyze data, process, present, and interpret data characterized by the fulfillment of all criteria in column 3
CPMK 6	Able to discuss the results of data processing and interpretation	Able to discuss the results of data processing and interpretation characterized by: 1. Able to analyze data and interpret it 2. Able to relate the phenomena found to the theoretical basis 3. Able to discuss data comprehensively from various relevant aspects 4. Able to discuss data in depth according to S1 level 5. Able to link between data and discuss the relationship	Less able to discuss the results of processing and interpreting data which is characterized by the criteria in column 3 being met less than 50%.	Sufficiently able to discuss the results of processing and interpreting data characterized by the criteria in column 3 fulfilled 50-<75%.	Able to properly discuss the results of data processing and interpretation characterized by the criteria in column 3 fulfilled 75-<100%.	Able to very well discuss the results of processing and interpreting data which is characterized by the criteria in column 3 being met 100%.
CPMK 7	Able to draw conclusions from a discussion result and provide suggestions from the results obtained	Able to draw conclusions from a discussion result and provide suggestions from the results obtained which are characterized by 1. Conclusions are relevant to the formulation of the problem, objectives, methods, and discussion 2. Able to generalize the results of activities in conclusions 3. The conclusion does not repeat the data that has been discussed 4. Suggestions are compiled based on the results that have been obtained	Less able to draw conclusions from a discussion result and provide suggestions from the results obtained which are characterized by the criteria in column 3 being met <50%.	Sufficiently able to draw conclusions from a discussion result and provide suggestions from the results obtained which are characterized by the criteria in column 3 being met 50-<75%.	Able to well draw conclusions from the results of the discussion and provide suggestions from the results obtained which are characterized by the criteria in column 3 being met 75-<100%.	Able to very well draw conclusions from the results of the discussion and provide suggestions from the results obtained which are characterized by all criteria in column 3 being met.

CPMK 8	Able to present scientifically a Bachelor Thesis Report in written form	Excellent Bachelor Thesis Report writing characterized by: 1. In accordance with the FTP UB Bachelor Thesis Writing Guidelines for formatting, table writing, image inclusion, bibliography writing, library citation methods, etc. 2. Following the PUEBI rules 3. Aesthetic layout and easy to read 4. Writing is easy to understand and understand 5. Writing concise, short, and clear sentences	The writing of the Bachelor Thesis Report is not good, which is characterized by less than 50% of the criteria in column 3 being met.	The writing of the Bachelor Thesis Report is quite good, which is characterized by the fulfillment of the criteria in column 3 of 50-<75%.	Writing a good Bachelor Thesis Report is characterized by the fulfillment of the criteria in column 3 of 75-<100%.	The writing of the Bachelor Thesis Report is very good which is characterized by the fulfillment of the criteria in column 3 of 100%.
CPMK 8	4. Able to present orally Bachelor Thesis Report	Excellent Bachelor Thesis Report presentation characterized by 1. Excellent mastery of knowledge related to the topic studied 2. Power point: in the form of points not sentences, artistic, interesting, aesthetic 3. Presentation with appropriate voice intonation, not too fast or slow, not memorized, mastering the audience, mastering the material 4. Precise and appropriate timing	Presentation of bad Bachelor Thesis Report which is characterized by less than 50% of the criteria in column 3 are met.	The report presentation is quite good, which is characterized by 50-<75% of the criteria in column 3 being met.	Presentation of a good Bachelor Thesis Report characterized by 50-<75% of the criteria in column 3 are met	The presentation of the Bachelor Thesis Report is very good which is characterized by 100% of the criteria in column 3 being met
	5. Able to explain the scientific basics that underlie the Bachelor Thesis Report	Mastery of the basic theory underlying the Bachelor Thesis Report very well which is characterized by 1. Able to explain the theoretical basis that underlies the Bachelor Thesis Report correctly 2. Able to relate theory to writing in his thesis 3. Mastering the methods in Bachelor Thesis Reports very well	Mastery of the basic theory that underlies the Bachelor Thesis Report is very lacking	Mastery of the basic theory that underlies the Bachelor Thesis Report quite well	Mastery of the basic theory that underlies the Bachelor Thesis Report well	Very good mastery of the basic theory underlying the Bachelor Thesis Report
	6. Understand and be able to explain	Excellent mastery of Bachelor Thesis Reports characterized by	Cannot explain the writing in the Bachelor Thesis	Good enough in explaining the writing in the	Can explain the writing in the Bachelor Thesis	Can explain the writing in the report

	the writings in the Bachelor Thesis Report	1. Able to explain the meaning of the writing in the Bachelor Thesis Report correctly 2. Able to answer questions and discussions very well	Report and answer questions	Bachelor Thesis Report and answering questions	Report and answer questions well	and answer questions very well

Appendix 1.4. Bachelor Thesis Examination Assessment Rubric

No.	CPMK	Assessment Components (according to the rubric)	Scoring Criteria	%

1	CPMK 1	Able to formulate problems	The problem formulation is very clear and well written which is characterized by: 1. The formulation of the problem under study is stated in clear sentences 2. Supported by up-to-date and relevant literature (last 10 years) 3. The problems studied are up to date, there is no plagiarism or repetition, the depth is suitable for the bachelor thesis 4. Goals are clear and in line with the method 5. The benefits are well formulated and the benefits to society and science and technology are well illustrated 6. Sentences are well structured, following the rules of PUEBI (General Indonesian Spelling Guidelines)	5
2	CPMK 2	Able to search scientific literature and compile it systematically	The Literature Review is very clearly and very well written which is characterized by: 1. Relevant cited libraries 2. As many as 50% of the libraries cite the primary library 3. 50% of the literature cited is up to date (last 10 years) 4. Arranged systematically and coherently 5. Very closely related to the topic being studied, it is not a snippet of writing from various sources 6. Does not indicate plagiarism 7. Depth of literature review is very good	10
3	CPMK 3	1. Able to develop or design scientific activities	Very clearly and very well written method which is characterized by: 1. It is clear the design used 2. The latest design, reliable, repeatable, depth according to the bachelor thesis 3. It is clear that the implementation plan that has been carried out is clear 4. It is clear how to analyze the data used 5. The design and analysis of the data is in line with the results and discussion 6. The data analysis used is relevant to the objectives and results and discussion 7. Can answer the hypothesis if any 8. Supported by up-to-date literature	10
		2. Activity depth and load	Excellent depth and load of activity characterized by 1. Activity load according to the bachelor thesis 6 credits 2. The depth of study is in accordance with the bachelor thesis 3. There are many things that must be learned in the implementation of this thesis 4. Authentic thesis and no similar studies 5. The method used is in accordance with the S1 . level	10
4	CPMK 5	Able to analyze data, process, and present data	Able to analyze data, process, present, and interpret data characterized by: 1. Data processing is done properly 2. The results of statistical tests, if any, are carried out correctly	10

			3. The data is presented in the form of tables or pictures or other accurately and the writing format follows the Guidebook for the Bachelor Thesis of FTP UB's Thesis	
5	CPMK 6	Able to discuss the results of data processing and interpretation	Able to discuss the results of data processing and interpretation characterized by: 1. Able to analyze data and interpret it 2. Able to relate the phenomena found to the theoretical basis 3. Able to discuss data comprehensively from various relevant aspects 4. Able to discuss data in depth according to S1 level 5. Able to link between data and discuss the relationship	20
6	CPMK 7	Able to draw conclusions from a discussion result and provide suggestions from the results obtained	Able to draw conclusions from a discussion result and provide suggestions from the results obtained which are characterized by 1. Conclusions are relevant to the formulation of the problem, objectives, methods, and discussion 2. Able to generalize the results of activities in conclusions 3. The conclusion does not repeat the data that has been discussed 4. Suggestions are compiled based on the results that have been obtained	5
7	CPMK 8	Able to present scientifically a Bachelor Thesis Report in written form	Excellent Bachelor Thesis Report writing characterized by: 1. In accordance with the FTP UB Bachelor Thesis Writing Guidelines for formatting, table writing, image inclusion, bibliography writing, library citation methods, etc. 2. Following the PUEBI rules 3. Aesthetic layout and easy to read 4. Writing is easy to understand and understand 5. Writing concise, short, and clear sentences	5
8	CPMK 8	1. Able to present orally Bachelor Thesis Report	Excellent Bachelor Thesis Report presentation characterized by 1. Excellent mastery of knowledge related to the topic studied 2. Power point: in the form of points not sentences, artistic, interesting, aesthetic 3. Presentation with appropriate voice intonation, not too fast or slow, not memorized, mastering the audience, mastering the material 4. Precise and appropriate timing	10
		2. Able to explain the scientific basics that underlie the Bachelor Thesis Report	Mastery of the basic theory underlying the Bachelor Thesis Report very well which is characterized by 1. Able to explain the theoretical basis that underlies the Bachelor Thesis Report correctly 2. Able to relate theory to writing in his thesis 3. Mastering the methods in Bachelor Thesis Reports very well	5

		3. Understand and be able to explain the writings in the Bachelor Thesis Report	Excellent mastery of Bachelor Thesis Reports characterized by 1. Able to explain the meaning of the writing in the Bachelor Thesis Report correctly 2. Able to answer questions and discussions very well	10
Amount				100

Lampiran 1.5. Bachelor Thesis Supervisor Assessment

No.	CPMK	CPMK Description	Assessment criteria	Score	%	Sub-Total
1.	CPMK 4	Able to implement the activity plan (assessed by the supervisor)	Able to carry out activities well characterized by			
			1. The activity plan can be implemented properly		30	
			2. Responsible for carrying out activities		10	
			3. Able to overcome obstacles in the implementation of activities		10	
			4. Excellent discipline and time management to complete the bachelor Thesis on time		20	
			5. Tough and earnest		10	
			6. Good communication skills demonstrated by intensive consultation with supervisors		20	
					100	

Appendix 1.6. Bachelor Thesis Examination Assessment Form

No.	Evaluator	%	Number	Score
1.	Tester 1	30		
2.	Examiner 2 or Supervisor 2	30		
3.	Supervisor 1	40		
Amount				

Appendix 1.7. Bachelor Thesis Assessment Compilation Form

No.	Evaluation	%	Number	Score	Quality Letters
1.	Bachelor Thesis Examination	70			
2.	Script guidance*	30*			
	a. Supervisor 1	20			
	b. Supervisor 2	10			
Amount					

*If there is no Supervisor 2, then the value of Mentoring 1 is 30%

Lampiran 1.8. Bachelor Thesis Proposal Seminar Approval Form

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA
FACULTY OF AGRICULTURAL TECHNOLOGY

APPROVAL SHEET
SEMINAR BACHELOR THESIS PROPOSAL

FY title :

Name :

NIM :

Major :

Faculty :

Supervisor I, LecturerSupervisor II,

……

……

NIP. NIP.

Appendix 1.9. Invitation Format for Bachelor Thesis Proposal Seminar Examiners

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA
FACULTY OF AGRICULTURAL TECHNOLOGY

Number : /UN10.F10.11/PP/2018
Regarding : Moderator

Dear.
Faculty of Agricultural Technology
Universitas Brawijaya
Malang

We sincerely hope that you will be willing to become Examiners of the Research Proposal Seminar for students:

Name : ..... NIM : .....

Research Title : .....
....

Which will be held on :

Day :

Date :

O'clock :

The place :

Thus, for your willingness, we thank you.

Malang,

and Head of Department,

Department Administration Coordinator,

.....
....
NIP

Appendix 1.10. Attendance List and Bachelor Thesis Proposal Seminar

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA
FACULTY OF AGRICULTURAL TECHNOLOGY

ATTENDANCE AND SEMINAR VALUE

Name :

NIM :

Date and time :

SEMINAR	Score	
	Supervisor I	Supervisor II
Proposal		
Name / Signature		

Appendix 1.11. Bachelor Thesis Examination Application Letter

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA
FACULTY OF AGRICULTURAL TECHNOLOGY

S-2

Number : /UN10.F10.11/PP/2019

Regarding :*Bachelor Thesis Examination Application*

Dear. Chairman
Department of Agricultural Products Technology
Faculty of Agricultural Technology
Universitas Brawijaya
Malang

Yours faithfully,

The undersigned below :

Name : ..... ID : .....

Hereby submit an application to carry out the Bachelor Thesis Examination on:

Day :

Date :

The place :

Thus, we thank you for granting this request.

Malang,

Best regards,

.....
NIM.

Knowing :

Supervisor I,

……
NIP.

Appendix 1.12. Bachelor Thesis Exam Attendance List

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA
FACULTY OF AGRICULTURAL TECHNOLOGY

LIST OF ATTENDEES
BACHELOR THESIS SUPERVISOR AND EXAMINE

Name :
NIM :
Exam Date :

Component	Name	Signature
Supervisor and Chairperson of the Session		
Supervisor II / Examiner I		
Examiner II		

Appendix 1.13. Bachelor Thesis Revision Statement`

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA
FACULTY OF AGRICULTURAL TECHNOLOGY

S-7

STATEMENT LETTER

I hereby Name : .... ID : .....
declare that I am willing to complete the revision / improvement of my thesis entitled:
....
.....
A maximum of 1 month starting from the date of _____ until the date of _____. If within that time period I cannot complete the revision, then I am willing to follow the sanctions according to the applicable regulations.

Thus, I make this statement in truth without any coercion from anyone.

Malang,

Witness, concerned student,

(supervisor) .....
NIP. ..... NIM.
.....

Appendix 1.14. Supervisor Consultation Logsheet

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA MALANG
FACULTY OF AGRICULTURAL TECHNOLOGY

THESIS CONSULTATION ACTIVITY CARD

Student name : …….. Thesis title :.....…….....
Registration number : ……..
……
Major : …….. ……

Consultation Date		DESCRIPTION	Signature
Accept	Return		

Unfortunately, ……..

Knowing,
Head of program, Supervisor I, Supervisor II, Supervisor III,

…….. …… ……
NIP NIP NIP NIP

Appendix 1.15. Research Logbook

Name :

ID :

LOGBOOK

No.	Day	Date	O'clock	Location	Activity	Results	Laboratory initials
1.							
2.							
3.							

Appendix 1.16. Plagiarism Free Form

PLAGIATION DETECTION SUBMISSION FORM

To:
Plagiarism Detection and Plagiarism Prevention Team
Faculty of Agricultural Technology
Universitas Brawijaya

We hereby submit scientific papers for plagiarism detection, in accordance with applicable regulations.

Title : ....
.....
....
....
....
Name - NIM : ....
.....
Study Program, Faculty : ....
.....
Email 1 :..... .....
.....
Email 2 : ....
.....
Mobile phone : .....
....

Thus, thank you for your attention.

Malang,

Writer

.....

Appendix 1.17. Bachelor Thesis Submission Form

MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS BRAWIJAYA MALANG
FACULTY OF AGRICULTURAL TECHNOLOGY

SUBMISSION OF TEXT/SOFT FILE OF BACHELOR THESIS

The undersigned hereby certify that:

Name : ……
NIM : .....
Major : .....
Study program : .....

Submit thesis manuscript (1 copy) / thesis summary (5 sheets) to:

NO.	LECTURER / OFFICER	DATE DELIVERY	NAME RECEIVER	SIGN HAND
1.	Main Supervisory			
2.	Supervisor II			
3.	UB Central Library			
4.	UB FTP Reading Room			
5.	Faculty Academic Section (CD)			
6.	Department Administration			

Thesis title :

Malang,
Who submit,

……
…..
NIM.

Notes :

Sheet I : head of program
Sheet II : Education Sub Division
Sheet III: The student concerned

PART II
BACHELOR THESIS FORMAT
(THESIS)

1. BACHELOR THESIS RESEARCH

The bachelor Thesis (thesis) in the form of research is a written scientific work compiled by students, in accordance with scientific rules and ethics under the guidance of competent lecturers and is a reflection of students' abilities in applying science and technology within a certain scientific scope. The bachelor Thesis is in the form of research by collecting primary or secondary data with the aim of solving a problem (problem-solving or problem-oriented research) related to the field of study. The research was carried out by students under the guidance of a supervisor, both in the laboratory and in the field. The purpose of this research is to collect data to be processed, analyzed, interpreted and discussed in a scientific rule.

The bachelor Thesis in the form of research is an activity in the form of laboratory or field experimental research, simulations, modeling, surveys, case studies in companies (secondary data collection from companies or data analysis but students do not always have to be in the company for a certain period of time like internship thesis), or software/hardware design/design.

The data used in completing the bachelor Thesis can be in the form of primary or secondary data obtained through survey research and or experiments (experimental) in the laboratory and or in the field.

In general, the TA writing format refers to the scientific writing guidelines commonly used by the scientific community. The formats used in the FTP UB thesis guide include:

CHAPTER I INTRODUCTION

This chapter consists of background, problem formulation, research/study objectives and research/study benefits. The following is an explanation of each sub-chapter in the introductory chapter:

1.1. Background

In general, the background contains an explanation of the things behind the subject matter which is used as the title in the Bachelor Thesis by highlighting the importance of solving these problems and finding answers. Weaknesses from previous research/study can be developed and formulated into a problem to be researched.

In addition, a successful concept, framework or approach for a system or process can be investigated for its suitability for its application to other similar or similar systems or processes, because there is the possibility of distortion. Similarly, a process that is successful at a limited scope may result in distortions in its application to an enlarged or expanded scale.

1.2. Formulation of the problem

The formulation of the problem contains statements in the form of interrogative sentences or complete sentences based on paragraphs, which are arranged sequentially starting from the problem, alternative solutions to problem solving and problem solving decisions used in research/study.

1.3. Destination

The purpose of research/study is another form of problem formulation of a research/study and is usually written in a succinct, more technical nature, and its achievements are measurable. This sub-chapter must be able to reflect the title of the research/study and if it is well formulated it can be used as a guide for the next activity steps, for example regarding the data that must be collected to answer the problems raised in a research/study.

1.4. Benefit

This sub-chapter is closely related to the contribution of the research/study and is a description of the potential contribution or possible application of the research/study results.

CHAPTER II. LITERATURE REVIEW

2.1. Literature review

The Literature Review contains rules, arguments, theories which are usually obtained from textbooks, research/study reports, bulletins and scientific journals/magazines, theses, dissertations, and other sources/scientific writings. Opinions or parts of lecture training, practical guides/instructions/guidelines and all materials provided during lectures cannot be used as valid sources of scientific information so they are not library materials.

In general, the literature review contains a description of the scientific basis and is closely related to:

1. Research problem/study and theoretical framework to address it
2. The scientific method or approach used to solve the problem by referring to the research/study/study with the subject of similar studies that have been carried out by previous researchers.
3. An overview of the development of research/study on the same or similar topics
4. The results of previous studies/study on different conditions as a comparison material.

The scientific basis presented in the Literature Review has an important meaning so that research/study is not trial and error or just repeating previous research/study. Therefore, it is important to know the development of science and technology related to the subject of study through the latest literature searches. It would be even better if the development of matters closely related to the subject of study could be presented in a sequential manner, starting from the old literature to the most recent. There is no general reference regarding the up-to-dateness of literature, the faster the changes and developments in science and technology in that field, the more recent research/study results will be. The progress of information technology today is very possible to get the latest literature, the results of research / studies of the last 10 years, quickly and easily.

The referenced library should be in the form of primary libraries from research journals, theses, theses, or dissertations and patents. The period of the referenced literature should be the last 10 years to show that the reference being referred to is up-to-date.

2.2. Hypothesis

At the end of the literature review, if necessary, hypotheses can be added. A hypothesis is an allegation or provisional opinion on the results to be achieved in problem solving, the truth of which will be proven from the results of the interpretation of the data that has been collected in the research/study. If the research/study topic is the design of tools or models, the hypothesis is not required to be written down.

CHAPTER III. RESEARCH METHODS

Research/study methods contain important matters and are closely related to materials and methods, procedures to obtain the desired data and statistical or mathematical designs used for data analysis and interpretation.

3.1. Place and Time of Implementation

This section is important to include, especially for research/study that is closely related and strongly influenced by natural/environmental conditions and is bound by time frames (soil, climate, social and economy of farmers, etc.) and is generally a research/study in the field. The writing of the place and time of implementation is not important for research/experimental studies in laboratories where the influence of the environment can be controlled and there is no effect of differences in the implementation time.

3.2. Tools and materials

Every important equipment, machine, measuring instrument (not glassware) used in research/study and which greatly affects the validity of the data collected needs to include its

name and specifications. If it is difficult to get the specifications, it can be replaced by listing the brand and model/type. This needs to be done because equipment that has similar functions, but with different specifications will provide different performance. Raw materials, auxiliary materials and materials for analytical purposes that are important or distinctive and have prominent roles need to be specified. In certain cases the difference in the data obtained may occur due to the use of inappropriate or different materials.

3.3. Method

Research/study methods include matters relating to the steps of research/study activities, flow charts, research/study schemes, activity models, methods, procedures, protocols or scientific approaches used to obtain, analyze and interpret data. This section also describes the framework and operational limitations used in the research/study. Statistical design, mathematical approach, sampling method, number of samples, criteria for determining respondents, research/study variables/parameters/benchmarks as data collected, and methods of measurement or collection, as well as other important things that affect conclusions need to be stated. The analytical method used must be scientifically justified, which refers to the previous method and can be repeated by others with the same results (reproducible). In the event that the method referred to is not fully applicable so that it needs to be modified, the form of the modification must be stated.

If the description of each aspect used in the research/study method turns out to be quite long, then in this section it is sufficient to state the main points, while a more detailed explanation is presented in the appendix.

3.4. Implementation

The implementation of the research/study contains detailed and complete details regarding the activity steps and the sequence of their implementation as is.

3.5. Observation and Data Analysis

In the observation and data analysis includes the way the observations are made, as well as the data analysis method used to process the data obtained to help interpret the data. The complete analysis procedure for obtaining the data is included in the appendix.

CHAPTER IV RESULTS AND DISCUSSION

The research/study is presented and immediately followed by the discussion. The important thing to note in this sub-chapter is that the results of the research/study are presented first and then the discussion description, do not first state the value or quote sentences from other libraries.

What is presented as a result of research/study is usually processed data (not raw data), both in the form of descriptive descriptions (text/sentences), and non-text (tables; images that include graphs, diagrams, maps, photos, monograms, and so on). other forms), is systematic and easy for readers to understand.

The form of presentation of research/study results is good, directed, sequential, systematic, very helpful for readers to understand the contents of the Bachelor Thesis. Descriptive tables and descriptions are generally used to display detailed research/study results. In the form of diagrams, images can be used to show the outline of the phenomenon, the tendency of the effect of a treatment, the relationship between parameters and other things that are less informative if displayed in tabular form.

In the form of research/field studies or research/study that is influenced by environmental factors that are not entirely controlled, it is not uncommon for this section to also present supporting data on weather developments, changes in the physical and or social environment.

The results of research/study in the form of good non-text are usually presented in such a way that they are self-explanatory, meaning that the contents are easy to understand even if they are removed or separated from other parts. The captions and associated footnotes are on the same page. It is not customary to put non-textual information in the text without mentioning it in the previous description. This is intended to make the flow of information smooth and the presence of non-text information is contextual, integrated with the overall content of the text. Therefore, the process and results of data processing to clarify text and non-text information in the main part of the Bachelor Thesis should be presented in the form of an appendix.

Likewise in discussing the results of research/study. If a description for the discussion must refer to a certain figure or table, then try to place the pages close together so that the reader is more comfortable, unless it is technically impossible. The content of the discussion is basically a critical analysis of the research/study results. Various approaches can be used in explaining the phenomena found in a research/study, for example, the analogy approach, the synthesis approach. The results of the research/study may differ or conversely strengthen the results (findings) of previous research/study or existing theories, but may also differ from the theories and hypotheses proposed. Proven or not proven hypothesis requires discussion (critical analysis) and theoretical explanation. Deviations from theories and hypotheses are more interesting things to explain. A person's ability to conduct a discussion (critical analysis) of a phenomenon is a measure of his mastery of the subject of study he faces.

CHAPTER V CONCLUSIONS AND SUGGESTIONS

5.1 Conclusion

This chapter is the last part of the main part of the Bachelor Thesis, and is usually separated into two sub-chapters, namely: conclusions and suggestions.The conclusion contains the main results and basically answers the problem or objective and the proposed hypothesis. This sub-chapter is not the same as a summary of results. So it is clear that there is a common thread that connects the research/study title, problem (formulation), research/study objectives, hypothesis (if any) and conclusions. Conclusions are usually stated in sentences (text), both preceded by numbers and or in paragraph form. Conclusions are not usually presented in non-text form. A good conclusion is a sentence that is concise, coherent, informative, and not more than 1 page.

5.2 Suggestion

The suggestions sub-chapter usually presents relevant matters related to the results (findings) of the research/study conducted. For example, its use for practical purposes, corrective steps if a similar research/study is to be carried out, follow-up actions that need to be done. Suggestions should not deviate from the subject of the study and the results of the research/study obtained. We recommend a maximum of 1 page.

BIBLIOGRAPHY

The bibliography contains all the literature that is referenced or used to support a research/study. As has been stated, diktat, practicum instructions/guidelines, let alone lecture notes, cannot be used as a library. Commonly used libraries are textbooks (ISBN numbered), scientific writings in the form of report books, and/or articles in scientific journals/magazines/bulletins numbered ISSN. The way the literature is arranged in the Bibliography is based on the alphabetical order of the author and the year of publication. The method of writing to refer to the literature in the text and Bibliography is presented in Part III of the Guidelines for Writing the Bachelor Thesis of this manual.

ATTACHMENT

The appendix contains analytical methods or procedures, primary and secondary data obtained from research results, primary and secondary data processing results, documentation of research activities, and others.

2. BACHELOR THESIS OF THE INTERNSHIP

Students are given the opportunity to do a Bachelor Thesis in the form of an Internship, with the aim of being more able to adopt real problems and industrial needs, so it is hoped that this internship process will provide intensive experience and real ability improvement to the participants of this program. The Internship Bachelor Thesis is also an opportunity for students to be able to independently seek opportunities as apprentices, both at home and abroad, which of course becomes the initial simulation of final preparation before entering the real world of work.

The rules and related requirements regarding the Final Internship Project have been regulated as follows:

1. It is recommended that the company has an MoU with the university or faculty.
2. Students independently seek information on companies or agencies that can be used as internships, and are adjusted to applicable regulations.
3. The topic of the bachelor Thesis can be taken from a case or proposal from the company and must be consulted with the bachelor Thesis Supervisor.
4. Students include proof of internship acceptance letter from the company along with the title of the research to be carried out.
5. The duration of the internship for the Internship Bachelor Thesis is a minimum of 60 working days with an allocation of 8 days/hour.
6. Not taking any courses in the semester at the same time.
7. Students create a logbook that is verified by the company

The requirements for the internship location are:

1. Business oriented business
2. Implement clear management principles
3. Have a clear institution
4. Have a decent economic scale in accordance with the commodity group or business activity
5. Can be affordable to supervise
6. The topic of the internship is relevant to the scientific study program
7. Not allowed in home and micro industries

Format of Final Assignment in the Form of Internship

CHAPTER I INTRODUCTION

This section contains:

1.1. Background
1.2. Formulation of the problem
1.3. Destination
1.4. Benefit

Things that can be included in these sections can refer to the provisions that have been conveyed in the preliminary points of the bachelor Thesis in the form of research.

CHAPTER II. LITERATURE REVIEW

The literature review contains an explanation of the main topics discussed in the internship program. The provisions of the literature review are explained in the bachelor Thesis in the form of research.

CHAPTER III. IMPLEMENTATION METHOD

The implementation method includes an explanation of the place and time of implementation, the internship method, the implementation of data collection, observation and data analysis carried out in the internship program.

CHAPTER IV. RESULTS AND DISCUSSION

4.1. Company profile

This section describes an overview of the place of internship/place to conduct research and the problems faced by the company (case study). At the beginning of this section, it describes the profile of the institution which contains an explanation of the main activities of the institution, the products or services offered as well as the vision and mission of the institution. The second part is an explanation of the history of the institution in general. Historical explanations must refer to valid literature/sources from internal institutions. In this section it is forbidden to reproduce the history of the institution written by the institution's internal publications. Students must rewrite the history in their own words. The next section is an explanation of the unit where the internship is carried out. This unit can be in the form of divisions, departments, the part or sub-section that becomes the place of internship and the place where research is carried out. Furthermore, the organizational structure is also explained. The organizational structure described is the structure of the internship organization and not the organizational structure on a large scale. For example, if a student is an intern at PT X Malang Branch, then what is explained is the organizational structure of PT X Malang Branch, not PT X as a whole.

4.2. Discussion of Internship Results with Sub Chapters as Needed

The discussion must present facts related to research/solving case studies in the company by providing information on the source or method of obtaining data. The first part is to explain the data/finding results. The results are explained based on the facts found. After describing the data found, the discussion continues with the analysis section. In this section, the relationship between the results found and the theory used (can be in the form of explanations or comparisons), proving hypotheses, analysis of weaknesses or strengths (input - output). The most important explanation in this section is the answer to the problem formulation and research objectives that have been described in Chapter I.Writing the results of observations with reference to the bachelor Thesis in the form of research.

CHAPTER V. CONCLUSIONS AND SUGGESTIONS

5.1. Conclusion

The conclusion contains the main results and basically answers the problem or purpose proposed. Conclusions are usually stated in sentences (text), both preceded by numbers and or in paragraph form. A good conclusion is a sentence that is concise, coherent, informative, and not more than 1 page.

5.2. Suggestion

The suggestions sub-chapter usually presents relevant matters related to the results (findings) of the research/study conducted. For example, its use for practical purposes, corrective steps if a similar research/study is to be carried out, follow-up actions that need to be done. Suggestions should not deviate from the subject of the study and the results of the research/study obtained. We recommend a maximum of 1 page.

LISTREFERENCES

The bibliography contains all the literature that is referenced or used to support a research/study. As has been stated, diktat, practicum instructions/guidelines, let alone lecture notes, cannot be used as a library. Commonly used libraries are textbooks (ISBN numbered), scientific writings in the form of report books, and/or articles in scientific journals/magazines/bulletins numbered ISSN. The way the literature is arranged in the

Bibliography is based on the alphabetical order of the author and the year of publication. The method of writing to refer to the literature in the text and Bibliography is presented in Part III of the Guidelines for Writing the Bachelor Thesis of this manual.

ATTACHMENT

The appendix contains primary data and secondary data obtained from research results, primary and secondary data processing results, documentation of research activities, and others.

3. BACHELOR THESIS OF ENTREPRENEURSHIP

Students are given the opportunity to do a Bachelor Thesis in the form of Entrepreneurship, with the aim of being able to develop an entrepreneurial spirit and apply lecture material in real business activities, as well as evaluate the business activities carried out. shapek entrepreneurial activities related to agricultural technology disciplines starting from planning, implementing, managing, controlling, and evaluating business development activities.

Terms of the bachelor Thesis in the form of entrepreneurship:

3.1. Don'tabusiness oriented andyour minim has been running for 6 months before the Bachelor Thesis Exam is carried out as evidenced by the cashflow book
3.2. The field of business is related to the scientific disciplines of the student study program
3.3. Implement clear management principles
3.4. Have a decent economic scale in accordance with the commodity group or business activity
3.5. Can be affordable to supervise
3.6. A feasibility study for entrepreneurial activities is made
3.7. Show proof of goods or services

Format of the Bachelor Thesis in the Form of Entrepreneurship

CHAPTER I INTRODUCTION

1.1. Background

In this section, it is hoped that there will be a description of the process in identifying business opportunities. Also included is a quantitative description of the condition of the portrait, profile and condition of the target audience who will be involved in the application of this Technology Design. It also describes the conditions and potential of the area in terms of physical, social, economic and environmental relevant to the activities to be carried out.

1.2. Market Situation Analysis

The situation analysis sub-chapter clearly defines the market situation to be addressed. Information about the market situation can be sourced from literature, student curiosity, problems or needs of the general public. It can also be shown about the problems that are a priority in the entrepreneurial activities carried out.

1.3. Destination

Objectives are brief statements about the purpose of implementing this entrepreneurial activity. Goals should be achieved specifically and are new conditions that are expected to be realized after an entrepreneurial idea is implemented. The formulation of objectives should be clear and measurable.

1.4. Benefit

The usefulness of the program explains the benefits that will be obtained for the target audience, in terms of science and technology and the economy.

CHAPTER II. LITERATURE REVIEW

In this section, a review of the literature related to the theoretical basis, production processes, technology, and management related to this type of business is written. The division of sub-chapters in this section is adjusted to the relevance of the line of business.

CHAPTER III. BUSINESS PROFILE

This section describes the general environmental conditions that give rise to the idea of creating a business activity. An overview of the potential resources and market opportunities including the economic analysis of the planned business is presented briefly to show the feasibility of the business. The description of the planned business must promise profit gains to ensure business continuity opportunities after the entrepreneurial activity is completed.

This sub-chapter includes:

3.1. Business History and DevelopmentCompany Profile
3.2. Company Organizational Structure and Employment
3.3. Enterprise Management System (brief explanation)
    3.3.1. Production System
    3.3.2. Quality Control System
    3.3.3. Product Marketing and Distribution System
    3.3.4. Financial Management System
3.4. Aspects of Sustainability and Technology
    3.4.1. Raw Material Availability Analysis
    3.4.2. Analysis of the Use of Production Machinery and Equipment

CHAPTER IV. RESULTS AND DISCUSSION

The results explain what is obtained from the implementation of the activity. Data can be summarized in the form of tables and figures. The discussion generally contains descriptions and analyzes related to the findings of the activities that have been carried out. The results and discussion on the bachelor Thesis in the form of an internship include a discussion based on the business profile associated with the results of the analysis based on the discipline of agricultural technology, sustainability analysis and development plans.

The author's interpretation and sharpness of analysis of the results obtained are presented here, including a discussion of questions arising from observations and scientific conjectures that can be useful for the continuation of entrepreneurial activities in the future. Successful problem solving, differences and similarities from observations of information found in previous literature (entrepreneurship activities) need to be noted here.

This sub-chapter includes:

4.1. Business innovation (product description, product advantages, and product benefits)
4.2. Business results and discussion
    4.2.1. Finance that contains a graph of turnover per monthin at least the last 1 year
    4.2.2. Production process (production scheduling, detailed production process flow diagram, facility layout, and yield calculation)
    4.2.3. Quality management and control
    4.2.4. Factory utility
    4.2.5. Environmental Aspect Analysis (Types of waste generated, which have the potential to pollute the environment and their management techniques)
    4.2.6. Marketing and Branding (list of resellers/partners, evaluation of marketing effectiveness)
4.3. Business Feasibility Analysis (BEP, R/C Ratio, Payback Period, NPV, and IRR)
4.4. Business Development Plan (evaluation and improvement plan for business management from various aspects, including targets for future business development and sustainability)

CHAPTER V. CONCLUSION

This section is the end of the article that takes the reader out of the discussion. In general, the conclusion shows the answer to the objectives stated in the introduction.

BIBLIOGRAPHY

The bibliography contains information about library sources that have been referenced in the body of the article. For every library referenced in the manuscript must appear in the bibliography, and vice versa, every library that appears in the bibliography must have been referenced in the body of the article.

ATTACHMENT

Attachments must include product descriptions/specifications, organizational structure, cashflow/financial reports, workforce profiles, business location plans, layout of production equipment, and others deemed necessary to be presented.

4. BACHELOR THESIS OF TECHNOLOGY DESIGN

CHAPTER I INTRODUCTION

1.1. Background

This section describes the problems that will be solved through the design of technology. Also explained about the existing technology designs and the problems so that new technology designs are needed. Students must identify the need for this technology design, the users of the technology design, and the problems that will be solved through the technology design that will be made. This section should also refer to the latest scientific references that form the basis for the development of technological designs.

1.2. Formulation of the problem

The problem formulation sub-chapter clearly defines the problems to be solved through the development of technological designs. Problems can come from literature, student curiosity, problems or user needs (industry or the general public). It can also be shown about the priority issues related to the Technology Design.

1.3. Destination

Purpose is a brief statement of the purpose of this technological design work. Goals should be achieved specifically and are new conditions that are expected to be realized after this Technology Design is implemented. The formulation of objectives should be clear and measurable.

1.4 Output

Outcomes that will be achieved through creative and innovative work in the creation of technological works are explained.

1.5 Uses

The usefulness of the program explains the benefits that will be obtained for the development of science and technology as well as users.

CHAPTER II. LITERATURE REVIEW

The literature review contains a collection of the latest, relevant and original literature from scientific journals. The literature review that gives rise to the ideas and underlies this Technology Design is clearly described. The literature review describes theories, findings, and other research materials obtained from reference libraries and forms the basis for the creation of technological design works. The literature review refers to the bibliography, so that the literature review is not a collection of theories, but is a series of relevant results and has a line of thought related to the design of the technology to be made.

CHAPTER III. TECHNOLOGY DESIGN

This section describes:

a. Tools and materials
b. Design Method
c. Testing Method
d. Implementation Plan

CHAPTER IV. RESULTS AND DISCUSSION

The discussion generally contains descriptions and analyzes related to the findings of the observations that have been made, especially in contexts related to what other people have done. In the discussion, a comparative study was also carried out with the results of

similar design works from previous researchers. This section should also refer to relevant and current scientific literature. This section includes:

4.1. Design Works/Technology Design

This section describes the results of the design work produced, the design process, the design and explanation of the functions of each part of the design.

4.2. Test result

The results explain the data obtained from observations to support the performance of the design work produced. Data is presented in the form of tables and figures.

4.3. Implementation Plan and Application

The interpretation and sharpness of the analysis of the authors of the results obtained are presented here, including a discussion of questions arising from the observations and scientific conjectures that can be useful for the continuation of future technological design work. Successful problem solving, differences and similarities from observations of information found in previous literature (technological design works) need to be noted here.

CHAPTER V CONCLUSIONS AND SUGGESTIONS

5.1. Conclusion

Conclusions and suggestions are the final part of the article. In general, the conclusion shows the answer to the objectives stated in the introduction.

5.2. Suggestion

This section presents suggestions that need to be made to improve the performance or performance of the resulting technological design work. Suggestions about applications and other relevant suggestions can also be submitted in this section.

BIBLIOGRAPHY

The bibliography contains information about library sources that have been referenced in the body of the article. For every library referenced in the manuscript must appear in the bibliography, and vice versa, every library that appears in the bibliography must have been referenced in the body of the article.

ATTACHMENT

The appendix contains primary data and secondary data obtained from the results of the development and testing of technological works, the results of data processing obtained, documentation of activities, and others.

5. BACHELOR THESIS OF SCIENTIFIC COMPETITION

The systematics of writing a Bachelor Thesis Report in the form of a competitive scientific paper refers to the type of Scientific Competition. There are several types of scientific works that can be used as final assignments, including PKM-PE, PKM-T, PKM-KC and PKM-K as well as other competitive works of the same level. If a competitive scientific paper is a research paper that is competed outside of the Student Creativity Program, then the writing format refers to the PKM-PE. The format for writing the bachelor Thesis from other non-PKM competitive scientific papers other than research can refer to the final assignment writing format from PKM-KC, PKM-K, PKM-T according to the relevance of the type of Scientific Competition. The rules for writing a bachelor Thesis Report in the form of a competitive scientific paper are as follows:

5.1. PKM-T

The format for writing a report for the type of bachelor Thesis in the form of a PKM-T competitive work is as follows:

CHAPTER I INTRODUCTION

1.1. Background

Background that outlines the process of identifying problems with partners that will be resolved by referring to various library sources, brief views of other authors/researchers who have discussed related topics. The formulation of the problem, the objectives and benefits of implementing the program according to the background of the problem are also stated here.

1.2. Activity Purpose

Activity objectives contain quantitative and measurable objectives that are expected to be achieved in this activity.

6.3. Activity Benefits

The benefits of the activity include a description of the economic expectations for the products produced (from a business point of view, especially on increasing the selling price of products or improving production costs. In addition, the description of expectations in terms of science and technology for the products produced (expectations from the academic side), it means technical or functional superiority of the product against the previous condition. It is also added a description of the added value of the application of technology and a description of the possibility of using the product (its multiplication) in similar industrial fields or other fields that may also be able to take advantage of it or an increase in the number of new workers that can be recruited as a direct result Another thing that must be explained is also about the current financial analysis and the prediction of improvement after the PKM-T activities.

CHAPTER II. SITUATION ANALYSIS/PARTNER PROBLEMS

Analysis of partner situation/problems describes quantitatively the portrait, profile and condition of partners, both industry, cooperatives or SMEs involved in PKM-T activities. These conditions include problems in production, management, marketing, human resources, quality assurance systems, capital or other problems that become partners' concerns. In addition, it also explains the meaning of the existence of industry/small entrepreneurs in their environment and the problems faced by industry/SMEs which are complemented by data both qualitatively and quantitatively.

CHAPTER III. FORMULATION OF THE PROBLEM

This chapter contains justifications with small entrepreneurs/SMEs in determining priority problems that are concrete specific and really are problems of industry/small entrepreneurs. In addition, it also reviews the application of technology offered, namely

appropriate technology that has added value for Partners, although it is not always new technology.

CHAPTER IV. LITERATURE REVIEW

In this chapter, general environmental conditions that give rise to the idea of helping partners improve their business or activities are described. Describe the literature that is related to science and technology that will be applied to partners taken from textbooks or scientific journals. Furthermore, it is also explained the existence of technological products that support the PKM-T idea. In this section, it should be explained which aspects of the technological assistance offered are believed to be able to increase added value for partners, for example improving product quality, improving production processes, waste treatment, quality assurance systems and others or management aspects which include marketing, bookkeeping. or business status.

CHAPTER V. METHODS

The method used includes writing that is concise, practical, scientific, and applicable and in harmony with the priority problems of small industries or cooperatives to be resolved. In this sub-chapter, a complete description of the technique, how to implement the program (education, consultation, training, engineering engineering, social engineering, mentoring, quality testing, etc.) and the stages of work in solving problems and at the same time achieving goals is described. Things that need to be considered in writing the method used is about the relationship between the description of the situation analysis, problem formulation, and the method offered.

CHAPTER VI. RESULTS AND DISCUSSION

The results and discussion contain the results of the implementation of PKMT activities, and the achievements obtained quantitatively (eg: increasing partner profits, increasing production capacity, expanding marketing, increasing product diversity, increasing quality assurance, etc.), implementation constraints in partners and solving implementation problems. The discussion is related to theoretical or scientific reviews based on the discipline of agricultural technology.

CHAPTER VII. CONCLUSIONS AND RECOMMENDATIONS

Conclusions and suggestions are the final part of the writing that takes the reader out of the discussion.

7.1. Conclusion

In general, the conclusion shows the answer to the objectives stated in the introduction.

7.2. Suggestion

In this section, suggestions that need to be made to improve the application of technology in partners or similar target audiences are presented. Other relevant suggestions can also be submitted in this section.

BIBLIOGRAPHY

The bibliography contains all the literature that is referenced or used to support a research/study. As has been stated, diktat, practicum instructions/guidelines, let alone lecture notes, cannot be used as a library. Commonly used libraries are textbooks (ISBN numbered), scientific writings in the form of report books, and/or articles in scientific journals/magazines/bulletins numbered ISSN. The way the literature is arranged in the Bibliography is based on the alphabetical order of the author and the year of publication. The way of writing to refer to the literature in the text and Bibliography is presented in Part III of this manual.

ATTACHMENT

The appendix contains data obtained from the results of PKM-T activities, processing results, activity documentation, and others.

5.2. PKM-PE

The format for writing the bachelor Thesis in the form of PKM-PE refers to the procedure for writing the bachelor Thesis in the form of research.

5.3. PKM-KC

The format for writing the bachelor Thesis Report in the form of a scientific competitive work PKM-KC refers to the bachelor Thesis in the form of a technological design work.

5.4. PKM-K

The format of writing a bachelor Thesis Report in the form of a scientific competitive work PKM-K refers to a bachelor Thesis in the form of entrepreneurship.

5.5. Other Competitive Works

The writing of the bachelor Thesis in the form of another competitive work refers to one of the most suitable formats. If the research base refers to PKM-PE, if it is based on technology design it refers to PKM-KC, and if it is based on entrepreneurship it refers to PKM-K

PART III
THESIS WRITING GUIDELINES

1. THE BEGINNING OF THE BACHELOR THESIS

1.1. Cover

The cover of the Bachelor Thesis is light blue which is the color of the FTP-UB flag. On the cover is printed: The title of the Bachelor Thesis, the word "BACHELOR THESIS" followed by the author's full name and NIM, the symbol of Universitas Brawijaya, Name of Department, Faculty of Agricultural Technology, University and the year the Bachelor Thesis was completed. All letters are capitalized except for the word “by” which is printed in lower case. All letters are printed in black ink. The cover consists of two parts, an outer (front) cover of cardboard (hard cover) and an inner cover of white HVS paper. On the back of the cover are written: the word “BACHELOR THESIS”, the name of the author (briefly), the keywords for the title of the Bachelor Thesis (in alphabetical order) and the year of graduation, written lengthwise following the spine.

1.2. Bachelor Thesis Title Page

This page is placed on a new page after the cover. The contents of this page are almost the same as the cover of the Bachelor Thesis, but under the NIM plus the words: "as one of the requirements for obtaining a Bachelor of Agricultural Technology". A good Bachelor Thesis title is concise, concise and informative, no more than 20 words, but can reflect the main content of the study from the written work.

1.3. Approval Page

The approval page is printed on a new page after the Bachelor Thesis title page. This page includes the title of the Bachelor Thesis, the author's name, NIM, major, name, NIP, and the supervisor's signature, and the date of approval. This approval page must already exist and be signed by the supervisor before the student is declared eligible for the Bachelor Thesis Exam.

1.4. Endorsement page

During the Final Assignment exam, it is not uncommon for the Bachelor Thesis manuscript to find things that are not quite right so that it needs to be corrected and students are obliged to correct it before the Bachelor Thesis manuscript is approved. The approval page is printed on a new page after the approval page. This page includes the title of the Bachelor Thesis, the author's name, NIM, the name and signature of the examiner, the name and signature of the Head of the Department, and the date of graduation of the Bachelor Thesis (the date of ratification after the revision/revision of the Bachelor Thesis is declared complete.

1.5. Curriculum Vitae Page

The author's curriculum vitae needs to be included in the Bachelor Thesis with the aim of briefly introducing the educational journey as well as experiences and other data deemed important by the author. Curriculum vitae page is written on one page only. Usually, a curriculum vitae contains data on the place and date of birth, the names of both parents, a history of formal education from elementary school to achieving a bachelor's degree, as well as achievements that have been achieved both on a national and international scale.

1.6. Designation Page

In the Bachelor Thesis, an allotment page does not have to exist, but may be provided to provide an opportunity for the author to whom the Bachelor Thesis is dedicated, for example the closest family who has helped finance college, which is not directly related to the completion of the Bachelor Thesis. The conditions that must be met in the creation of the allotment page are as follows:

3.1. One page maximum.
3.2. Use standard Indonesian.
3.3. Use the letters as set out in this guide in black ink on white paper.

1.7. Declaration of Authenticity Page

The authenticity of the Bachelor Thesis needs to be stated on a separate page to ensure that the written work is its own work that can be legally accounted for.

1.8. Research Funding Statement Page

If a student is pursuing a research project from another party as part of a lecturer's research project or a researcher from another institution, the student must write a statement as follows “This research is part of a …….. Research Project (name of lecturer/researcher written) and research for this thesis was funded by the project”. The statement sheet is also printed separately and submitted to the Administration Department along with other judicial files.

1.9. Summary Page

The summary is typed on a new page and includes information: the name and NIM of the author, the title of the Bachelor Thesis, the words "Bachelor Thesis" and the full name and title of the supervisor as well as the substance of the summary.

The substance of the summary begins by writing the word “SUMMARY” which is typed in capital letters in the middle of the page. The contents of the summary include: the first paragraph contains the background (problem) and the objectives of the research/study. The second paragraph contains the research/study method which contains an explanation of the research/study design/analysis, if necessary an explanation of the place and time of the research/study implementation. The third paragraph contains the experimental results. The fourth paragraph presents conclusions and suggestions. A good summary is generally without citing other people's opinions (library).

The entire summary is expected to be no more than one page typed 1 space or a maximum of 500 words. At the bottom left of the summary, keywords are listed (maximum 4 words and sorted alphabetically).

1.10. PageSummary

*Summary*created on a new page after the summary page. Basically a summary is a summary in the English version and the writing systematic is similar to a summary. The Summary also includes Keywords (keywords) which consist of a maximum of four words and are sorted alphabetically as in the Summary.

1.11. Foreword Page

The introductory page is typed on a new page and given the title FOREWORD which is typed in capital letters in the middle of the page. The preface contains the title and scope of the study/study as well as the purpose of making the Bachelor Thesis. In addition, the foreword may include a statement of gratitude to those who are considered important and directly related to the implementation of the research/study or the completion of the Bachelor Thesis by mentioning their contribution. For example, to the Supervisor, other individuals, institutions that have provided guidance, advice, suggestions and criticism in the implementation of the completion of the Bachelor Thesis, who have provided assistance with facilities and other assistance felt directly by students. (check attachment)

1.12. Table of Contents Halaman

The table of contents page is typed on a new page and is titled TABLE OF CONTENTS which is typed in capital letters in the middle of the page. The table of contents contains the beginning of the Bachelor Thesis starting from the Summary, the main section to the end or the appendix and each with its page number. The page numbering at the beginning of the Bachelor Thesis uses lowercase Roman numerals (i, ii, iii and so on), while the main and final sections use Arabic numerals (1, 2, 3 and so on).

Although the main part of the Bachelor Thesis consists of chapters to sub-chapters, what is listed in the Table of Contents is only up to the sub-chapter titles. The last part is the attachments that are considered necessary. Chapter titles are typed in capital letters, while each word in the sub-chapter title is typed in lowercase letters starting with a capital letter, except for conjunctions and prepositions. Neither chapter titles nor sub-chapters end with a period. In writing the table of contents, space 1 is used, but space between chapters is used 2.

1.13. Tables Page

The table list page is typed on a new page and titled LIST OF TABLES typed in capital letters is placed in the middle of the page. The Table of Tables contains all the tables contained in the main part of the Bachelor Thesis along with their page numbers. The row spacing between table titles is 2 (two) spaces, while the row spacing in one table title is 1 (one) space.

1.14. Image List Page

The image list page is typed on a new page. This page contains the words LIST OF IMAGES as the title typed in capital letters without ending with a period, image number, image title and page number. The spacing rules used are the same as for table lists.

1.15. PageAppendix List

The attachment list page is typed on a new page and contains the words LIST OF ATTACHMENTS as the title typed in capital letters without ending with a period, attachment number, attachment title and page number. The spacing rules used are the same as for table lists.

1.16. Symbol List Page

A symbol list page needs to be made if the bachelor Thesis contains many symbols which are very annoying if the description is presented on every page that contains those symbols. The symbol list page is typed on a new page and is titled LIST OF SYMBOLS typed

in capital letters without ending with a period. The symbol list page contains symbols, units and other information.

2. MAIN PART OF THE BACHELOR THESIS

This section is the main part of the bachelor thesis which consists of the Introduction, Literature Review and others as presented in Part II of this Bachelor Thesis Guidebook in accordance with the chosen bachelor Thesis form.

3. FINAL SECTION

3.1. Attachment

The appendix contains things that support/explain the various information presented in the main part of the Bachelor Thesis such as a description of the analytical methods used in Chapter III, raw data, statistical analysis results, questionnaires used, etc. Attachments can be in the form of sentences or non-text, which if presented in the main part will continue to understand and disturb the comfort of the reader. Although it is descriptive of the text or non-text presented in the main part of the Bachelor Thesis, it does not mean that the Appendix must be lengthy, trying to be as concise as possible but informative.

4. ADDITIONAL TERMS

4.1. Journal Format

All final assignments are required to write a journal with a format referring to the Journal Writing Guidelines in the Faculty of Agricultural Technology, including: Agricultural Technology Journal, Industrial Journal, Food and Agroindustry Journal, Tropical Agricultural Engineering Journal and Biosystems, Natural Resources and Environment Journal. Each format is described in detail in CHAPTER VI.

4.2. Thesis Format for Reading Room

For thesis collection in the reading room, the writing format follows the bachelor thesis writing format but is more concise which includes:

i. Abstract
ii. Introduction
iii. Method
iv. Results and Discussion. Presented succinctly as well as the results and discussion for the journal
v. Conclusion
vi. Bibliography

5. BACHELOR THESIS TYPING AND WRITING FORMAT

In order to eliminate diversity in the use of letters and the method of writing Proposals and Bachelor Thesiss, the typing format and writing methods need to be regulated. Below will be described several things related to this problem, including paper, use of letters, text typing formats, symbols (symbols) and units, text formats and bibliography citations as well as making a bibliography.

5.1. PROPOSAL FORMAT AND BACHELOR THESIS DRAFT

1. Paper Material and Size

The draft of the bachelor Thesis Report (TA) is made using HVS paper measuring A4 (21 x 29.7 cm) with a weight of 80 g/m2 (HVS 80 GSM), should not be typed back and forth

and neatly bound in the form of a colored hardcover. light blue and black lettering.

2. Edge Border

Typing limits are set as follows:

a. Left edge : 3 cm
b. Top, bottom and right edge: 2.5 cm

3. Font type

a. The script is typed using 11pt Arial font.
b. Italics or other special letters can be used for certain purposes, for example to mark foreign terms.
c. Signs that cannot be typed must be neatly written in black ink.

4. Line Spacing

a. In general, the distance between 2 lines is 1.5 spaces.
b. The distance between the chapter title and the first sub-chapter title, or with the first sentence, is about 2 cm (2 x 2 spaces)
c. If the sub-chapter titles are typed in descending order, the distance between the titles of one sub-chapter and the next sub-chapter is set by 2 spaces.
d. The distance between the sub-chapter title and the first line of the sentence is 2 spaces.
e. The distance between the end of the sentence from one sub-chapter with the title of the next sub-chapter is 3 spaces.
f. The distance between the line of the sentence with the title of the table, or between the end of the table with the sentence (text) 3 spaces.
g. The distance between the last line of the table/figure title and the table is 1.5 spaces, while the distance between the lines in the table/figure title is one space. The distance between the table/figure and its description is 1 space. However, the distance between the table/figure and/or its description with the text is 3 spaces.
h. The formula is typed with the spacing as needed.

5. Writing chapter and sub-chapter titles

Each chapter begins on a new page, and the title is typed in capital letters in the middle of the page and is given a Roman number (I., II., III. etc.) ending with a full stop. The title of the sub-chapter is typed at the edge of the paragraph, numbered by the sub-chapter using Arabic numerals, for example 2.1, ending with a period. Likewise for the sub-chapter titles. The beginning of each word in the title of the sub-chapter and sub-sub-chapter is written in capital letters and the rest in lowercase letters.

6. New paragraph

In each new paragraph, the first word is 1 cm from the edge of the paragraph.There are no spaces between paragraphs.

7. Room filling

The space contained in the manuscript page must be filled in completely, meaning that typing must start from the left edge to the right edge and no space is wasted except for new paragraphs, equations, lists, pictures, titles or special things. In typing with word processing software, paragraph settings are often used automatically using the "justified" mode. In certain cases the distance between words becomes unequal and creates a large enough void between one word and the next. To avoid this, in typing it is allowed to decide on words, in accordance with good and correct Indonesian rules. The name of something (person, institution, etc.) in writing should not be cut off.

8. Table Typing Format

a. Tables are lined with upper and lower borders without side borders (open table form) as exemplified in Table 4.1.
b. Table numbers are typed in Arial font size 11 bold (bold).The table number is typed with 2 Arabic numerals separated by a period. The first number indicates the number of the chapter where the figure is located, while the second number indicates the serial number of the table or figure in the chapter.

Table 5.1. Characteristics of Palm Oil Fatty Acid Distillate (DALMS) and Unsaponifiable Fraction (FTT)

Characteristics	DALMS	FTT
Free fatty acid content (%)	80.74±0.49	4.06±0.70
Peroxide number (mec/kg)	4.74±0.78	3.31±0.35
Anisidin number	2.79±0.67	2.32±0.20
yield		2.17±0.39

c. The table title is typed in Arial font size 11, right and left aligned (Justify). The title is written succinctly, but describes the content.Table title is typed 1 space without ending with a periodand every word in it begins with a capital letter, except for conjunctions, prepositions and adverbs of place.
d. Table numbers and titles are aligned to the left.
e. The distance between the table title number and the table top line is 1 space. While the distance between rows of table titles is 1 space if the table title is more than 1 row.
f. The title of the table must be the same as the title of the table or figure listed on the table list page.
g. Table contents are typed with Arial font size 10 bold (bold) for column headings and not bold for column contents.
h. Lines between rows are 1 space apart. The important thing is that the table is easy to read.
i. The table is placed on the page of the manuscript in such a way that the border does not exceed the limit of the paper that can be printed and the table is centered in it.
j. Table columns can be placed parallel to the width of the paper or parallel to the length of the paper (landscape). If the table columns can be placed parallel to the length of the paper (landscape), it is recommended that the entire page be filled with tables without text.
k. The table may be placed in the middle of the page between the lines of the main body text.
l. Table description, can be used to clarify the contents of the table.
m. Tables and figures quoted from other sources are explained by including the author's name and year.
n. Tables that require paper larger than the manuscript page are acceptable, but only tables that when folded once have reached the size of the manuscript page are included in the main body text. Larger tables are placed in the appendix.

9. Image Typing Format

a. The term drawing includes drawings, illustrations, graphs, diagrams, floor plans, maps, charts, monograms, flow charts and portraits.
b. Letters, numbers and other punctuation marks used in pictures must be clear.
c. All images must be referenced in the text.
d. Images and illustrations must use high resolution and good contrast in JPEG, PDF or TIFF format. The minimum resolution for photos is 300 dpi (dots per inch), while for graphics and line art it is 600 dpi.
e. Black and white images must be created in grayscale mode, while color images must be in RGB mode.

f. The image is made open without the image border.
g. The image is placed symmetrically (centered) against the border of the paper that can be printed.
h. The longest side of the image border can be placed parallel to the width of the paper or parallel to the length of the paper. For the last thing, the image should be made on a separate page without text to make it easier to read.
i. The image with the longest side parallel to the width of the paper may be placed in the middle of the page between lines of text.
j. The image number is typed in Arial font size 11 bold (bold).The image number is typed with 2 Arabic numerals separated by a period. The first number indicates the number of the chapter where the image is located, while the second number indicates the serial number of the image in the chapter.
k. The title of the image is typed in Arial font size 11, center aligned. The title is written succinctly, but describes the content.The title of the image is typed 1 space without ending with a periodand every word in it begins with a capital letter, except for conjunctions, prepositions and adverbs of place.
l. The number and title of the image are placed 2 spaces below the bottom line of the image with a distance between lines of 1 space if the image title is more than 1 line.
m. Images that require a page that is wider than the manuscript page are acceptable. Images that require 1 fold to reach the page size of the manuscript can be inserted into the body of the text. Images larger than that should be included in the appendix.
n. An example of a given image can be seen in Figure 4.1.

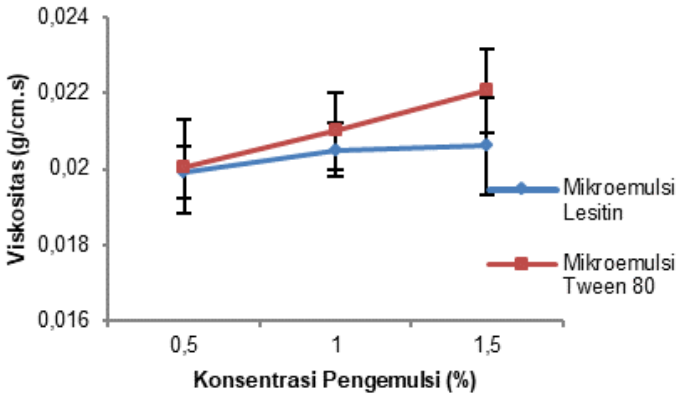

Figure 5.1. Microemulsion Viscosity at Various Emulsifier Types and Concentrations

10. Page Numbering

a. Pages in the introduction, table of contents, list of tables, list of figures are numbered with Roman numerals (i,ii,iii,iv,etc.)
b. The main body page numbers are in Arabic numerals (1,2,3,etc.).
c. Page numbers are placed symmetrically (centered) below the manuscript.
d. The appendix page number is a continuation of the main body page number.

11. Printing

a. The draft TA report is printed according to need, namely a number of supervisors and TA examiners and can be reproduced with photocopies for other purposes.
b. The draft TA report is printed using a black ink printer for text and/or color for images.

5.2. FINAL FINAL REPORT TYPE FORMAT

1. Paper Material and Size

HVS paper is A4 or A5 and weighs 80 g/m2 (HVS 80 GSM).

2. Edge Border

For A5 . Size

The upper and lower limits of the paper that can be printed are 1.7 cm from the edge of the paper. For odd pages, the left border is 2 cm and the right border is 1.7 cm. For even pages, the right border is 2 cm and the left border is 1.7 cm (book shape).

For A4 Size

The upper and lower limits of the paper that can be printed are 3 cm from the edge of the paper. For odd pages, the left border is 4 cm and the right border is 3 cm. For even pages, the right border is 4vcm and the left border is 3 cm (book shape).

3. Font type

a. Manuscripts are typed in Arial font size 11.
b. All titles are in bold.
c. All foreign terms are italicized (Italic).

4. Line Spacing

a. The line spacing between chapter titles and sub-chapter or paragraph titles is 24 pt.
b. The line spacing between sub-chapter titles or sub-chapter titles and paragraphs is 6 pt.
c. The line distance between the end of the paragraph and the title of the next sub-chapter or sub-chapter title is 18 pt.
d. Line spacing within and between paragraphs is single.
e. The line spacing between the end of the paragraph and the image or table below is 3 spaces.
f. The line spacing between the beginning of the paragraph and the image or table above is 3 spaces.

5. Writing Chapter Titles and Sub-chapters

a. The title of the chapter, sub-chapter and sub-chapter does not end with a period, because the title is not a sentence.
b. Chapter numbers use Roman numerals without ending with a period.
c. Chapters and chapter titles are typed in capital letters 3 spaces after the chapter number.
d. Numbers and chapter headings are placed symmetrically (centered) within the boundaries of the paper that can be printed.
e. The title of the sub-chapter is typed in capital letters on all the first letters except for conjunctions.
f. The sub-chapter number is typed with two Arabic numerals separated by a period. The first number indicates the chapter number, while the second number indicates the sub-chapter number.
g. The title of the sub-chapter is typed in lowercase except for the first letter of the first word.
h. The sub-chapter number is typed with 3 Arabic numerals, each separated by a dot. The first number indicates the chapter number, the second number indicates the sub-chapter number, while the third number indicates the sub-chapter number.

6. New Paragraph

a. All paragraphs are aligned to the left and right borders (justify paragraphs).
b. The indent (the part that indents) on the first line in the paragraph is 1 cm from the left border.

c. Indentation at the bottom of the page is allowed if there are at least 2 lines of sentences.
d. There are no spaces between paragraphs.

7. Paragraph content arrangement

The preparation of paragraph content should be attempted so as not to create paper spacewhich is blank or does not leave one last line on the next new page.

8. Room Filling

Filling in the space must be full and there is no empty space, unless there is a change of Chapter.

9. Table Typing Format

Typing tables in the final TA report refers to the rules for typing tables in sub-chapter 5.1 of the format for typing the bachelor Thesis draft at point 8, except in the following cases:

a. Table numbers are typed in Arial font size 10, written in bold.
b. Table writing is typed in Arial font size 10, written in bold.
c. Table contents are typed with Arial font size 10 for column headings and not bold for column contents.
d. The table title is typed 1 space without ending right and left alignment (Justify), with lowercase letters except the first letter of the first word which is typed in capital letters.
e. Lines between rows are 1 space apart. The important thing is that the table is easy to read.
f. Table numbers and titles are aligned to the left.
g. The distance between the table title number and the table top line is 1 space. While the distance between rows of table titles is 1 space if the table title is more than 1 row.

10. Image Typing Format

The numbering and title of the images are as follows:

a. The image number is typed in Arial font size 11 bold (bold).The image number is typed with 2 Arabic numerals separated by a period. The first number indicates the number of the chapter where the image is located, while the second number indicates the serial number of the image in the chapter.
b. The title of the image is typed in Arial font size 11, center aligned. The title is written succinctly, but describes the content.The title of the image is typed 1 space without ending with a periodand every word in it begins with a capital letter, except for conjunctions, prepositions and adverbs of place.

11. Page Numbering

a. Pages in the introduction, table of contents, list of tables, list of figures are numbered with Roman numerals
b. The main body page numbers are in Arabic numerals.
c. Page numbers are placed symmetrically (centered) below the manuscript.
d. The appendix page number is a continuation of the main body page number.

12. Printing and Binding

a. The Bachelor Thesis Report is printed as needed to be submitted to the Central Library, FTP library, lecturers and can be reproduced for other purposes.
b. The Bachelor Thesis Report is printed using a black ink printer.
c. The form of binding is direct binding (hard cover laminate).

5.3. BACHELOR THESIS REPORT TYPING FORMAT COLLECTED IN THE LIBRARY

1. Format of the bachelor Thesis collected in the Library and Reading Room

For printed (hardcopy):

a. Abstract
b. Introduction
c. Method
d. Results and Discussion (such as Results and Discussion for Journals)
e. Conclusion
f. cover page
g. Endorsement page
h. Dafpus according to what is in the text

For files (softcopy):

a. Abstract
b. Introduction
c. Method
d. Conclusion
e. cover page
f. Endorsement page
g. Dafpus according to what is in the text

2. Paper Size

HVS paper is A5 (14.8 x 21 cm) or A4 (21 x 29.7 cm).

3. Border

The upper and lower limits of the paper that can be printed are 1.7 cm from the edge of the paper. For odd pages, the left border is 2 cm and the right border is 1.7 cm. For even pages, the right border is 2 cm and the left border is 1.7 cm (book shape).

4. Font

a. Manuscripts are typed in Arial font size 11.
b. All titles are in bold.
c. All foreign terms are italicized (Italic).

5. Line Spacing

a. The line spacing between chapter titles and sub-chapter or paragraph titles is 24 pt.
b. The line spacing between sub-chapter titles or sub-chapter titles and paragraphs is 6 pt.
c. The line distance between the end of the paragraph and the title of the next sub-chapter or sub-chapter title is 18 pt.
d. Line spacing within and between paragraphs is single.
e. The line spacing between the end of the paragraph and the image or table below is 3 spaces.
f. The line spacing between the beginning of the paragraph and the image or table above is 3 spaces.

6. Writing Chapter Titles and Sub-chapters

a. The title of the chapter, sub-chapter and sub-chapter does not end with a period, because the title is not a sentence.
b. Chapter numbers use Roman numerals without ending with a period.
c. Chapters and chapter titles are typed in capital letters 3 spaces after the chapter number.

d. Numbers and chapter headings are placed symmetrically (centered) within the boundaries of the paper that can be printed.
e. The title of the sub-chapter is typed in capital letters on all the first letters except for conjunctions.
f. The sub-chapter number is typed with two Arabic numerals separated by a period. The first number indicates the chapter number, while the second number indicates the sub-chapter number.
g. The title of the sub-chapter is typed in lowercase except for the first letter of the first word.
h. The sub-chapter number is typed with 3 Arabic numerals, each separated by a dot. The first number indicates the chapter number, the second number indicates the sub-chapter number, while the third number indicates the sub-chapter number.

13. New Paragraph

a. All paragraphs are aligned to the left and right borders (justify paragraphs).
b. The first line indent in the paragraph is 1 cm from the left border.
c. Indentation at the bottom of the page is allowed if there are at least 2 lines of sentences.
d. The arrangement of paragraph content should be sought so as not to create empty paper space or not leave one last line on the next new page.

14. Room Filling

Filling in the spaces in the final TA report refers to the rules for filling in spaces in the sub-chapter of the final assignment typing format.

15. Page Numbering

a. Pages in the introduction, table of contents, list of tables, list of figures are numbered with Roman numerals
b. The main body page numbers are in Arabic numerals.
c. Page numbers are placed symmetrically (centered) below the manuscript.
d. The appendix page number is a continuation of the main body page number.

6. BACHELOR THESIS WRITING GUIDELINES

6.1 Use of Foreign Languages

The use of foreign languages for writing the manuscript of the Bachelor Thesis may be permitted within certain limits. Words or terms in foreign languages that have not yet been translated into Indonesian are italicized, for example starter, vacuum drying. If the word in the foreign language already has a standard translation in Indonesian, it is advisable to use the translation by mentioning the foreign language version and its Indonesian equivalent at the time the word first appears in the text.

For example, the word vacuum drying. When it first appears in the text, the word vacuum drying is followed (vacuum drying), while furthermore when the word reappears, the translation can only be used: vacuum drying. Latin words must be italicized or underlined, for example: et al., ie, viz, a priori, tet a tet, Oryza sativa L., Rhizopus oligosporus, and so on.

6.2 Use of Punctuation, and Abbreviations

a. The use of punctuation marks such as periods, commas, colons and so on, refers to good and correct Indonesian rules.

b. The use of standard abbreviations for words in Indonesian and foreign languages is acceptable in the preparation of the Bachelor Thesis, for example: dll, etc., et al., etc, et al. It is also acceptable to write an abbreviation for the name of an agency or institution that is repeatedly used in the Bachelor Thesis, as long as it appears for the

first time with an extension, for example Disperindag (Department of Industry and Trade), Provincial Government (Provincial Government), DRK (List of Planned Activities) and so on.

6.3 Symbol (Emblem) and Unit

a. Use of Symbols (Emblems)

The symbols or symbols used for writing the Bachelor Thesis must be standard for each discipline. Usually, for each equation, formula, formula, diagram and the like, it is followed by a description of the symbol. Although there are standard rules for the meaning of symbols, each symbol used must be given an explanation of its meaning. Even if a sufficient number of symbols are used, it is advisable to create a separate page containing a list and description of the symbols (see the subsection Pages of Lists and Symbol Descriptions).

If you use letters to symbolize something, such as variables (variables), chemical formulas, then Latin Greek letters must be used, both in uppercase and lowercase letters. Coat of arms can consist of one or two letters. Symbols can be subscripted or superscripted or both. Subscripts and superscripts can be letters or numbers.

b. Numbers and Units

a. Numbers are used to write the date, time, page number, percentage, and time, for example: August 2, 2003, 05.00 am, page 106, 15 percent.
b. In the Bachelor Thesis, the amount should be stated in numbers while the unit of a quantity is stated with the abbreviation of the unit, unless the unit is not preceded by a number, for example: pipe length is measured in centimeters; the height of the tower is 105 m.
c. The writing of the unit of a quantity is not marked with a dot after it, unless it is at the end of a sentence.
d. Writing numbers without units or symbols that are less than 10 are used letters (words), such as four parts, nine groups, one space.
e. If a sentence contains a series of numbers, both smaller and larger than 10, then all of them are listed with numbers, while the unit writing is simply listed after the last sequence of numbers, for example: 0, 5, 10 and 15 oC; Rp. 9,000
f. The following examples can be used as a reference in writing numbers and units, which can be seen in Table 3.1.
g. The units for multiplication and division are written by separating the two units using a slash (Table 3.2.).

Table 3.1. Sl System Physics Quantities and Their Units

Quantity	Sub quantity	Unit	Symbol
Base	Long	meters	m
	Mass	grams, kilograms	g, kg
	Time	seconds	s
	electric current	(seconds)	A
	amount of substance	ampere	mole
Derivative	Light intensity	mole	CD
	Large	candela	m2
	Speed	square meter	ms-1
	Power	meters per	W
	Pressure	second	Pa
	electrical charge	watt	C
	electric potential	Pascal	V
	difference	coulomb	□
	electrical resistance	volt	lx
	illuminance	ohm	Hz
	Frequency	lux	N

Quantity	Sub quantity	Unit	Symbol
	Style	hertz	m3 or L
	Volume	newtons	
		cubic meter *	

*can be written in liters with the symbol

Table 3.2. Units in Indonesian and abbreviations for units of multiplication and division

Unit	Unit writing
millimeters per day	mm/day
kilograms of P2O5 per hectare	kg P2O5/ha
milligrams per gram per hour	mg/g/hour
grams per second	g/sec or g/s

c. Writing fractional numbers in decimal form uses a comma to delimit the fractional number from the whole number, for example 100,30. Dots are used to express multiples of thousands, for example, two thousand are written as 2,000, ten million are written as 10,000,000 and so on.
d. The units used for writing the Bachelor Thesis are metric units or other international units if there is no metric unit for that quantity. Traditional units such as fathoms, pikuls, sacks, should not be used in the Bachelor Thesis.

6.4 Literature Writing in the Bachelor Thesis

The format for writing literature refers to the Harvard-FTP template using Mendeley software or Microsoft End Note.

a. Authors more than 2 people are written only the first author's name by adding et al. Example: Jurak et al. (2019) if it is placed at the beginning of the sentence or (Jurak et al., 2019) if it is placed at the end of the sentence.
b. If there are 2 authors in 1 book or 1 reference source, then the writing uses the conjunction "and". Example: Cho and Jones (2019) if placed at the beginning of the sentence or (Cho and Jones, 2019) if placed at the end of the sentence.
c. The author's name can be written at the beginning, in the middle or at the end of a sentence (text) depending on the arrangement.
d. Especially for quoting tables and figures (non-text) from a library, the author's name and year of publication of the library are listed at the bottom of the table and after the last sentence of the title of the figure.
e. If the same author publishes two or more libraries in the same year, then the citation is to add the letters a, b, c and so on (the letters don't need to be in Superscript) in the order they appear in the final manuscript, after the year of writing, for example Vendruscolo (2016a), (Yao and McClements, 2015b).
f. How to cite the opinion of authors listed in other literature follows the following example: Li et al. (2015) in Ang et al. (2019) suggested that …… or … Phospholipids are often used in the food, pharmaceutical, and cosmetic industries as emulsifiers, antioxidants, and drug carriers for the encapsulation of bioactive compounds (Li et al., 2015 in Ang et al., 2019).

6.5 Bibliography in the Bibliography

a. Arranged in alphabetical order by author's name and year of publication. If there are 2 books that are referred to written by the same person but published in different years, the author's name is written again for each library.

b. The first author's name starts with the last/surname/family name, followed by the first and second names (if any). For example:
    - Basuki Abdullah written: Abdullah B
    - Seno Sastroamidjojo written: Sastroamidjojo S
    - Sutan Takdir Alisyahbana is written: Alisyahbana ST
    - I Nyoman Suwandi Pendit written: Pendit INS
c. Bachelor degrees, such as Prof., Dr., Ir., dr., Drs., SH., B.Sc., MA, M.Sc., and others in the bibliography do not need to be included.
d. If there is more than one author, all authors' names are listed. Cannot be summarized as et al. or et al.
e. If there are two authors, in both citations the names are written using conjunctions and for example Cho and Jones (2019), even though the library sources are in foreign languages.
f. Sources of literature from Indonesian or Indonesian people if there are more than two then cite using et al. (not et al). For example Purnomo et al. (2018) or Lestar et al., (2019).
g. The year of publication is coded a, b, c, d…..etc if the same author is published in the same year. Code writing is based on the order of citations in the script.
h. Journal names are abbreviated with standard abbreviations followed by writing volume, number, and pages.
i. The title of the book is written in capital letters for each word except for conjunctions (style title case) and is italicized, and the title of the manuscript of the journal is written in capital letters on the first word (style sentence case).
j. The names of journals, magazines, or newsletters are not abbreviated.
k. Example of writing a bibliography according to its type

The writing of the bibliography in the Bibliography depends on each type of library with the following details:

1) Libraries in the form of Periodic Scientific Magazines (Journals/Bulletins)

How to write:

Author's name, year of publication, title of article/writing, name of magazine/journal, volume and magazine number and page number of article/writing followed by digital object identifier if any

Example:

McClements DJ, Zou L, Zhang R, Salvia-Trujillo L, Kumosani T, Xiao H. 2015. Enhancing nutraceutical performance using excipient foods: designing food structures and processes to increase bioavailability. Comprehensive Reviews in Food Science and Food Safety 14: 824-847. DOI: 10.1111/1541-4337.12170

Zhang Z, Wang X, Liu C, Li J. 2016. The degradation, antioxidant and antimutagenic activity of the mucilage polysaccharide from Dioscorea opposite. Carbohydrate Polymers 150(5): 227-231. https://doi.org/10.1016/j.carbpol.2016.05.034.

2) Library in the form of Textbooks

How to write:

Name of author, year of publication, title of book, edition number (if not the first edition), name of publisher and place of publisher (name of region/city).

Example:

McClements DJ. 2015. Food Emulsions: Principles, Practices, and Techniques. 3rd ed. CRC Press, Boca Raton, Florida.

3) Chapters in Books

How to write:

Author's name, year of publication, chapter title, editor's name, book title, edition number (if not the first edition), name of publisher and place of publisher (name of region/city).

Example:

Tadros TF. 2013. Emulsion formation, stability, and rheology. In Tadros TF (ed), Emulsion Formation and Stability. 1st ed. Wiley-VCH Verlag GmbH & Co. KgaA, Weinheim.

4) Thesis, Thesis, Dissertation

How to write:

Author's name, year of publication, chapter title, editor's name, book title, edition number (if not the first edition), name of publisher and place of publisher (name of region/city).

Example:

Zahra AM. 2016. Characteristics of Lampung Silica Sand Waterglass with Smelting Sodium Hydroxide Base and Its Application in Postharvest Handling of Tomato (Solanum lycopersicum). Thesis. Department of Agricultural Product Technology, Faculty of Agricultural Technology, Universitas Brawijaya.

Erning YI. 2019. Detoxification of Bitter Cassava Cyanide (Manihot esculenta Crantz) by Submerged and Solid Spontaneous Fermentation Methods and Back-Slopping Fermentation and Base Immersion. Dissertation. Doctoral Program in Agricultural Sciences, Faculty of Agriculture, Universitas Brawijaya.

5) Internet

How to write:

Author name, year, title, page, date of access.

Example:

Research and Markets. 2019. Global Rice Bran Oil Markets, 2011-2018 & 2019-2024.https://www.globenewswire.com. Access date 8 July 2019.

6) Patent

How to write:

Author's name, year, patent title, patent number.

Example:

Torgersen TL, Klaveness J, Myrset AH. 2012. Antioxidants in fish oil powder and tablets. US Patent 2012O156296A1.

7) Proceedings

How to write:

Author's name, year, article title, proceedings followed by the name of the seminar, place, date of the seminar.

Example:

Estiasih T, Harijono, Ahmadi K. 2017. Increasing production capacity, improving packaging, and implementing quality systems in small and medium-sized businesses for instant herbal drinks for export market expansion. Proceedings of

the National Seminar on Communication Forum of Indonesian Agricultural Technology Universities (FKPTTPI). Kendari, 17 September.

Estiasih T, Aggriani R, Maligan JM. 2016. Protein composition and functional properties of protein concentrate from selected soybean (Glycine max) superior varieties. Proceedings of the International Conference on Food Properties (ICFP). Bangkok, Thailand, May 31-June 2.

6. Others

The Indonesian language that must be used in the Bachelor Thesis follows the rules of using Standard and Correct Indonesian in accordance with the Enhanced Spelling (EYD). Grammatical rules must be adhered to by compiling complete and complete sentences. Use punctuation as necessary so that the clause can be distinguished from its main clause. It is recommended that you use clauses carefully so that the sentence does not lose its subject. Passive sentences are more commonly used in scientific writing.

Personal pronouns, especially first person pronouns (I, we), should not be used in textual sentences, except in quotations. Cutting words into syllables must follow the correct conditions. The last word in the last line of a sentence on a page should not be truncated. If a paragraph must be broken due to a page change, then the last paragraph on the page must have at least two lines remaining. Similarly, the section that is moved on the next page is a minimum of two lines. Use the enhanced Indonesian Spelling General Guidelines, General Guidelines for the Formation of Terms, and the General Indonesian Dictionary as a guide.

The first page of the Bachelor Thesis is numbered using Roman lowercase numbers, starting from the approval page. The main part of the Bachelor Thesis, starting from the Introduction, is numbered in Arabic numerals. Each chapter starts on a new page and the page numbers on the first sheet of each chapter do not need to be listed. All page numbers, whether Roman numerals or Arabic numerals, are typed 1 cm from the bottom border and the right side of the paper, and the page numbers do not end with a full stop punctuation mark behind the page number.

The writing of the text in the Preface must use scientific rules and correct Indonesian language, it is not allowed to use everyday popular words/terms.