GUIDEBOOK FOR THESIS WRITING IN 2023 AGROTECHNOLOGY STUDY PROGRAM FACULTY OF AGRICULTURE



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I. INTRODUCTION

The Handbook for Non-lecture Education Activities for the Undergraduate Program of the Faculty of Agriculture, University of Nusa Cendana was prepared as a reference or guide for organizing non-lecture academic activities for the Agrotechnology Study Program. The preparation of this handbook is one of the embodiments of the Undana Chancellor's Regulation concerning the Undana Competency-Based Curriculum (KBK) and Norms and Benchmarks for the Implementation of Education in Undana. Non-college educational activities for Undana Faperta students include Internship/Professional Work Class (KKP) activities and completion of Thesis/Final Project.

This Handbook contains rules of implementation, procedures for writing reports, procedures for conducting and evaluating seminars and examinations for Thesis. Students who do not comply with the implementation rules as stated in this Handbook will be subject to applicable academic sanctions. Meanwhile, implementation rules for other non-lecture educational activities will be regulated in separate rules.

As mandated in the 2009 KBK Faperta Undana that before completing studies at Faperta Undana, each student is required to carry out research for thesis/final project.

Thesis is a scientific paper that is prepared based on the results of research to fulfill some of the requirements for obtaining a bachelor's degree in the Undergraduate Program (Strata-1/S-1). Before carrying out this academic activity, students are required to prepare a research proposal under the guidance of a supervisor appointed by the Student Final Assignment Commission (KTAMA).

The purpose of the assignment to write a thesis is to train students to be able to write scientific papers according to their interests in a good and correct way of writing. This goal can be achieved if there are instructions that can be used as a guide in writing. Writing guidelines contain technical instructions (*juknis*) for research implementation, research proposals and thesis, as well as uniform writing procedures for all Study Programs (Prodi) at the Undana Faculty of Agriculture.

Thesis Guideline presents an overview of how to write a thesis in the Agrotechnology Study Program of Faperta Undana. Uniformity of guidelines for proposals, research and thesis in detail is not possible because there are fundamental differences between various fields of science, so the guidelines for completing this thesis also include these differences, without reducing the scientific weight that can be achieved.

II. CODE OF ETHICS FOR IMPLEMENTING THESIS

Implementation of thesis is an academic process for scientific work that must be completed during the student's study period. As an academic community, students are bound by universally applicable academic ethics such as honesty, openness, objectivity, willingness to learn and develop and mutual respect.

Plagiarism is a conscious (deliberate) or unconscious activity carried out by a student which may include 1) copying other people's scientific work; and 2) use material or ideas taken from other sources without permission, not mentioning the source or material of a scientific work which is recognized as the result of a scientific work or one's own thoughts. Forms of plagiarism include taking other people's ideas, opinions, findings either in part or in whole without permission or without mentioning the source of reference honestly. In scientific work, referring and quoting is unavoidable. This activity is actually highly recommended because referencing and quoting will help the development of knowledge. In scientific work, students must honestly mention references to materials or thoughts taken from other people. The use of material or thoughts from a source or other person that is not accompanied by a reference can be identified with theft.

Cheating in scientific work is an act that is done intentionally or unintentionally taking the place of a position or carrying out tasks or activities for the benefit of others at the request of other people or of their own volition in thesis activities.

Forms of counterfeiting include carrying out activities intentionally or without the permission of the authorities to replace, imitate or change/falsify something in order to gain recognition as something genuine.

A. Scientific Attitude

1. Curiousity

Students need to be enthusiastic about asking about various things they face in carrying out their thesis. Students should be interested in both old and new discourses. Old discourse, even though it has been debated by previous experts, may still require further thought. Meanwhile, new things are generally very interesting to learn, so that new thoughts or findings can be obtained.

2. Critical Thinking

The characteristics of students who are critical are not easily satisfied with a single answer. The student is always trying to find out what is behind the symptoms, even the facts he is facing. Curiosity creates a strong motivation to learn and because of that motivation, a critical attitude emerges. Students will not be quick to believe but because of that curious attitude students need to find as much information as possible before they make a critical opinion. Students should not rush to say or write a general statement. For a student who is critical, natural laws and empirical data are the main things. Students should be able to distinguish well between natural laws, hypotheses, theories, conjectures and opinions, and students should be careful and thorough in comparing similar phenomena.

3. Open-mind Attitude

Students who are scientific need to always be open, that is always willing to listen to the statements and arguments of other people, even if they differ from their views. Students who are open do not close their eyes to other possibilities. Students are not emotional in responding to criticism, denial and even criticism of their opinions.

4. Objective Attitude

Being objective can be interpreted as being able to set aside personal feelings, or unreasonable tendencies, in other words being able to state what is, be able to see the real and actual. Students who are objective are not "controlled" by their own thoughts or feelings and are not influenced by prejudice.

5. Attitude of Appreciating the Work of Others

Students who act scientifically have a soul big enough to appreciate the work of others without feeling small. People who are arrogant and feel less likely to be objective, and their scientific work will take on a smug, commanding, and patronizing tone. Arrogant people are usually selfish ("confess").

Students who have a scientific spirit never acknowledge other people's work as original work that comes from themselves. Students will of course be willing and happy to acknowledge and express gratitude for the ideas or work of others that they simply quote.

In other words, students who respect other people's work will not commit plagiarism, namely using or taking other people's text, data, or ideas without giving true and complete acknowledgment of the source.

6. Courage to Defend the Truth

Students who are scientific have the courage to state the truth and, if necessary, defend it. The truth may be in the form of facts on the results of field studies, practices or own research or the results of research or the work of others. This attitude creates unanimity in the way of thinking and creates consistency in scientific work.

7. Attitude of Reaching Forward

Students who act scientifically have a pretty far-sighted view of the future. Technological and cultural developments generally attract the attention of people who are curious, critical, open and

objective, and therefore far-sighted. Students need to be futuristic, that is able to see far ahead.

Students need to make themselves smart people to make hypotheses and prove them, and be able to compile theories from this proof. To achieve this condition, of course, students need to train themselves to be fond of reading, regard research as a necessity, and present their work in a scientific paper as an obligation.

B. Characteristics of Scientific Work

Implementation and writing of thesis is a series of scientific activities that must be written in scientific writing. In writing thesis, students must refer to the following characteristics of scientific writing:

- 1. Presenting objective facts systematically or presenting the implementation of natural law in specific situations
- 2. Students must write carefully, precisely, correctly, and sincerely. Scientific work should not make guesses. Statements written in scientific papers must be sincere, without fear of the negative impact that may arise as a result of the truth of the scientific statements that must be disclosed.
- 3. Not pursuing personal gain, namely not having ambitions so that the reader takes his side. The motivation of scientific paper writers is simply to inform facts. Authors of scientific papers are neither ambitious nor prejudiced.
- 4. Systematic scientific writing, each step is systematically planned, conceptually and procedurally controlled.
- 5. Scientific writing is unemotional, does not highlight feelings and presents reasons and understanding. Words in scientific writing should be easy to identify. The reasons put forward are inductive, encouraging to draw neutral conclusions and not invitations.
- 6. Scientific work does not contain unsupported views except in working hypotheses.
- 7. Scientific work is written sincerely and contains the truth and does not provoke doubtful questions.
- 8. Scientific writing is not argumentative. Although scientific writing may reach conclusions, good scientific work is able to present facts in an informative manner so that readers can draw their own conclusions.
- 9. Scientific writing is not persuasive, what is stated are facts and the application of natural law to specific problems. It is true that the purpose of scientific writing is to encourage readers to change their opinion, but this is not done through solicitations, arguments, refutations, and protests but rather by letting the facts speak (speaks by data).
- 10. Scientific writing does not exaggerate in presenting facts, let alone distorting facts, because distorting facts will actually damage the purpose of writing scientific papers themselves.

A. Technical Instructions for Thesis Implementation

1. Definition and Purpose

a. Understanding

Thesis or Final Project is a scientific paper, which is mandatory for every student, as a final project that is prepared to complete studies at the undergraduate level or program based on research in accordance with scientific principles and ethics, guided by several competent lecturers, and is a reflection the ability of students to apply science, technology, arts and or humanities in a particular scientific scope.

Thesis is an independent activity to synthesize various provisions of knowledge that have been obtained from a number of data sources including experimental activities, surveys, and internships/KKP. The thesis is equivalent to 6 credits of academic activities. The definition of one credit is equivalent to 4 hours of field work, each of which is accompanied by 1-2 hours of structured activities and around 1-2 hours of independent activities per week. Thus, research activities and thesis preparation are the workload of research and document preparation of 6-8 hours a day for 1 month (minimum 25 working days), so 6 credits of research is equivalent to a workload of 6 months.

Student thesis writing includes several stages, namely proposal writing, research planning seminars (SRP), data exploration/or experimental activities, thesis draft writing, research results seminars (SHP), and thesis examinations, revision, and duplication. Students who have completed their thesis and are declared to have passed the thesis exam are entitled to hold a Bachelor of Agriculture (SP) degree.

b. Objective

The purpose of writing a thesis is as follows:

1) provide basic provisions and train students to write scientific papers based on research data; 2) building scientific reasoning, critical thinking, analysis, and synthesis in students towards a phenomenon or problem by paying attention to the development of science, technology, and art from the perspective of the scope of scientific fields;

3) equip students with research skills;

4) fostering students' mentality so that they are honest, objective, disciplined, able to work together, respect the opinions of others, enthusiastic, thorough, planning-oriented, open, and responsive to problems.

1. Weight, Terms and Place

a. Weight

Thesis has a weight of 6 credits whose activities include preparing research proposals, conducting research, writing Thesis, and Thesis exams.

b. Terms and conditions for the implementation of Thesis

Students may submit a thesis writing activity if the student meets the following terms and conditions:

- 1) students have collected a minimum of 120 credits with a GPA > 2.00 without an E grade; pass the Internship/KKP Course, Scientific Method and Experimental Design
- 2) students submit an application for the implementation of thesis to the Assistant Dean I through KTAMA attached with an academic transcript validated with EPSBED/PDPT data;
- 3) students enter their thesis in the Study Plan Card (KRS) in the current semester;
- during the implementation of the research, students are allowed to take courses according to the number of credits allowed;
- 5) students who will carry out thesis research as a continuation of the Internship/KKP, the location is determined by KTAMA after deliberation with the Advisory Team (Supervisor I and Advisor II); and
- 6) students are obliged to submit 6 (six) copies of thesis manuscripts that have been approved by the Advisory

Team and approved by the Dean and 1 compact disk (CD) in PDF format.

c. Research place

Research can be conducted in:

- 1) laboratories and/or fields inside and outside the university environment; and
- 2) companies, agencies or institutions that are in accordance with their field of knowledge.

2. Thesis Duration

The duration of the thesis is calculated from the time students register the thesis, prepare research proposals, carry out SRP, carry out research, write thesis, carry out SHP, and thesis exams. The maximum length of completion of the thesis is 1 (one) year or 2 (two) consecutive semesters, and if it is more than this time duration of the year, the thesis must be reviewed by the Study Program Coordinator and Faculty involving KTAMA. The flowchart of thesis preparation is shown in Figure 1.

3. Rights and Obligations of Students

a. All forms of outcomes in the form of Intellectual Property Rights, articles in scientific journals, etc., which are related to the material/substance of thesis are shared rights between students and their supervisors as well as the University.

b. The rights and obligations of students are as follows:

1) Students have the right to submit a thesis proposal title in accordance with their interests, abilities, and work results that have been initiated from the start before programming the thesis. This is possible considering that in certain courses there are assignments that can be developed into pre-proposals. If the student concerned wishes to continue as a thesis proposal, the student can submit it to KTAMA.



Figure 1. Flowchart and stages of thesis/final project implementation

- 2) Students have the right to obtain supervisors according to their competence.
- 3) Students have the right to submit suggestions for replacing supervising lecturers under special conditions to KTAMA. KTAMA will provide recommendations after conducting monitoring and evaluation of the mentoring process which is equipped with an agenda document.
- 4) Students in the process of completing their Thesis are required to:
 - a) following the stages of thesis activities as stipulated in this Manual and other provisions that apply legally;
 - b) complete the thesis in accordance with a predetermined time;
 - c) comply with the rules and all provisions regarding the completion of the Thesis;
 - d) comply with the specified credit load requirements.

c. Students are required to write a thesis based on scientific ethics and etiquette, honest and free from elements of plagiarism and refer to the applicable Thesis Writing Guidelines. For students who violate these stipulated provisions, the person concerned will be subject to sanctions in accordance with the Dean's decision after obtaining suggestions and considerations from various parties (Counseling Team, Study Program Coordinator, and/or KTAMA).

4. Agrotechnology Student Final Assignment Commission (KTAMA)

In order to accelerate student graduation, as an initiation, the Faculty forms a Student Final Assignment Commission, abbreviated as KTAMA. KTAMA is a team formed by the Faculty whose job is to assist the Study Program Coordinator in order to expedite the duties of the Supervisor and the implementation of thesis by students. KTAMA is in charge of monitoring the process of preparing the thesis, while the substance of the thesis is the responsibility of the Advisory Team. However, KTAMA can provide suggestions and improvements to research topics, seminar paper drafts and/or thesis drafts that are adapted to the Thesis Writing Guidelines and Faculty Research Development Master Plan (RIP), including those regarding the eligibility of scientific work to be presented in seminars, thesis examinations , and/or publication online. With the KTAMA, it is hoped that the thesis activities carried out by students can be completed on time.

In carrying out its duties, KTAMA is obliged to:

- a. assist the Study Program Coordinator in receiving thesis registration forms, and schedule of activities that have been approved by the supervisor;
- b. conduct an inventory of students who should have started thesis activities;
- c. provide explanations to students regarding matters related to thesis activities, including regarding the direction of faculty research development, understanding of thesis, requirements, planning, implementation processes, monitoring mechanisms, and academic sanctions;
- d. carry out periodic monitoring of the activities of students who have started carrying out the thesis according to the schedule they have prepared (example of the thesis activity work schedule in Appendix 8);
- e. arrange schedule of SRP, SHP, and implementation of Thesis in general;
- f. identify problems experienced by students and supervisors related to the implementation of the thesis and participate in thinking of ways to solve them; And
- g. periodically reports its activities to the Dean through the Study Program Coordinator.

More technically, the KTAMA work process is determined through the Thesis or Final Project Completion Procedure Manual.

5. Thesis Compilation Stage

a. Thesis preparation as a continuation of the Internship/KKP

Thesis is a scientific work based on the work results of conducting research (in the form of experiments or surveys) or the continuation of the results of the Internship/KKP under the guidance of the Lecturer. The value of the thesis is 6 (six) credits. What is intended as a result of the continuation of the Internship/KKP is a follow-up process which is the output and outcome of the Internship/KKP where students are able to identify problems at the Internship/KKP location.

Problems at the practice location through a process of thinking, observing, in-depth study of the practice location, consulting competent experts and reviewing the literature, especially scientific journals, are expected to develop original ideas from the students concerned to find a solution. For this reason, students are facilitated by supervisors to carry out the stages: 1) identify problems; 2) collect ideas, ideas, information and data; 3) analyzing information and data; 4) ranking ideas based on the results of the analysis; 5) testing ideas, information and data; 6) draw conclusions; and 7) establish recommendations independently.

For this reason, the process of preparing a Thesis as a continuation of the Internship/KKP for the development of effective solutions is as follows:

- 1) The first step is to diagnose the situation and identify the root cause of the problem through:
 - a) root cause analysis of possible problems;
 - b) determine the analysis and information needed to test the hypothesis;
 - c) analyze and identify the root causes of problems to find solutions through for example force analysis.
- 2) The second step is solution development through:
 - a) development of various solutions to solve root causes;
 - b) setting priorities for action;
 - c) development of an implementation plan
- a. The stages of thesis activities that must be carried out are:
 - 1) Determination of the Advisory Team by KTAMA and approved by the Study Program Coordinator no later than Semester VII (L2);
 - 2) Registration of the draft of thesis activities after students determine the title and arrange a schedule with the approval of the Advisory Team (L1);
 - 3) Preparation of Research Proposals (trial/survey) or continuation of Internships/KKP accompanied by a schedule of activities and approved by the Advisory Team and Study Program Coordinator;
 - 4) Research Proposal Seminar (SRP) that has been approved by the Advisory Team (example of the approval sheet for thesis proposal or research proposal in Appendix 7);
 - 5) Implementation of research/continuation of Internship/KKP;
 - 6) Data analysis and writing of research results/continuation reports for Internships/KKP;
 - 7) Research Result Seminar (SHP);
 - 8) Publication to the Faculty and/or central library (University);
 - 9) Thesis final exam.

b. Supervision

During the implementation of the trial/survey or continuation of the Internship/KKP, the Advisory Team is obliged to carry out field visits at least once during the implementation. Funding for this site review is borne by the student concerned. The amount of the supervision fee is determined based on the Dean's decree.

c. Sanctions

A student may receive penalty if during the completion of the thesis he does the following:

- 1) doing things that are seen from an academic and scientific point of view cannot be justified;
- 2) unable to finish within the allotted time;
- 3) doing things that are seen from the point of view of implementation provisions are not justified;

4) the weight of the credits is less than the stipulated provisions.

Violation of these provisions causes students to be subject to sanctions determined by the Dean after obtaining suggestions and considerations from the Supervisor, Study Program Coordinator, and/or KTAMA.

d. In general, the stages of preparing a thesis are as follows:

1) Preparation Stage:

- a) students request research files, Academic Transcripts, and Consultation Cards for Research/Thesis Proposals to the Academic Subdivision;
- b) students register with KTAMA by submitting research files and Academic Transcripts; And
- c) KTAMA proposes that the Thesis Advisor Team have a minimum Masters degree, unless otherwise determined by KTAMA at the discretion of the Faculty Leaders.

2) Implementation Stage:

- a) students make research proposals guided by the Thesis Advisory Team (Supervisors I and Advisors II);
- b) after the research proposal is approved by the Advisory Team, students duplicate it in 4 (four) copies to be approved by Wadek I and handed over to the Advisory Team, Academic Subdivision, and students each 1 (one) copy;
- c) students may carry out SRP after the research proposal has been approved by the Advisory Team and have attended at least 10 SRPs in the study program concerned and at least 5 (five) times each in other

study programs at Faperta Undana;

- d) SRP assessment is carried out by an Assessment Team (Guidance Team and one Examiner) determined by the Study Program Coordinator on the recommendation of KTAMA;
- e) SRP assessment components include content (30%), method (20%), language (20%) and accountability/ability to express opinions (30%);
- f) if there is a proposal to improve the research proposal in the SRP, no later than 1 (one) week after the SRP has been corrected and approved by the Advisory Team; And
- g) The Advisory Team must monitor the implementation of research and everything related to monitoring is the responsibility of the student.

- 1) Completion Stage:
 - a) students make a Draft 1 Thesis and each consultation with the Advisory Team must include a Consultation Monitoring Card;
 - b) students may carry out SHP after the Draft of One Thesis has been approved by the Advisory Team and have attended at least 10 SHPs in the study program concerned and at least 5 (five) times each in other study programs at Faperta Undana;
 - c) SHP time is no longer than 60 minutes and attended by at least 10 students;
 - d) the evaluation of the seminar is carried out by an Assessment Team (Guidance Team and one Examiner) determined by the Study Program Coordinator on the recommendation of the KTAMA;
 - e) SHP assessment components include content (30%), method (20%), language (20%) and accountability/ability to express opinions (30%);
 - f) Thesis examination is carried out if students:
 - 1) have passed the SHP by bringing a letter of introduction and blanks for grades from the Academic Subdivision;
 - 2) have submitted the Final Thesis Draft to be tested to KTAMA no later than 1 (one) week before the Thesis Examination is held;
 - g) The Thesis Examiner Team is the Advisory Team and one Examiner; And

h) The thesis assessment component includes the value of research proposal seminars and research results (15% each), and thesis exams (70%) with details of thesis exams: content (30%), methods (20%), language (20%) %) and accountability/ability to express opinions (30%).

B. Supervisors and Thesis Examination Team

To carry out the thesis, a student must be guided by at least 2 (two) supervisors consisting of 1st Supervisor and 2nd Supervisor

1. Requirements for Supervisors:

a) 1st Supervisor is a Lecturer at Faperta Undana from the study program and/or the same study interest as the student he/she supervises, and at least has the academic functional position of Lector and holds a Masters postgraduate education.

b) 2nd Supervisor is a Lecturer at the Faculty of Agriculture of Undana who at least has the academic functional position of Junior Lecturer (III B) and holds a Masters postgraduate education or has the functional position of Senior Lecturer with a minimum degree of Bachelor of Agriculture. 2nd Supervisor is also possible with a Bachelor of Agriculture from another agency with a rank/position equivalent to the requirements above. 2nd Supervisor is also possible and recommended from other Study Programs within Faperta's internal environment or from other faculties within Undana.

c) Deviations from the requirements above are determined by the Dean at the suggestion of the Study Program Coordinator and/or KTAMA.

2. Duties and Obligations of Supervisors

a) supervise the trial/survey location or the internship/KKP continuation work location;

- b) assisting students in finding research problems/the location of the final project which is used as the basis for completing the thesis;
- c) guiding students scientifically academically in carrying out activities in the field and writing scientific papers so as to achieve the targeted competence of the final project;
- d) provide an assessment of the process and results of student thesis.
- e) Penyimpangan persyaratan di atas ditentukan oleh Dekan atas usul Koordinator Prodi dan/atau KTAMA.

4. Undergraduate Examination

- a. Definition of Undergraduate Examination
 - 1) Undergraduate exam is a thesis exam that is required as a condition for obtaining a bachelor's degree.
 - 2) The thesis examination in the form of an oral exam which is carried out in a comprehensive manner aims to evaluate students in the application of their areas of expertise as outlined in the thesis.
- b. Undergraduate General Examination Requirements

A student may be allowed to take an undergraduate exam if he has:

- 1) registered as an active student in the year concerned;
- 2) take all compulsory and elective courses that have been programmed in the study program concerned and all courses pass according to the provisions in force at the Faculty of Agriculture;
- 3) collect the total credits for the Bachelor level or have taken all the courses that must be taken for graduate students with GPA ≥2.0 without an E grade;
- 4) pass the exam/seminar Internship/KKP;
- 5) complete the thesis with evidence of obtaining approval from the Advisory Team;
- 6) do SRP and SHP thesis results (examples of thesis summaries for seminars in Appendix);
- 7) take part in seminar activities in each department/ study program and/or other departments/ study programs within the Faperta Undana, in accordance with the regulations set in each department;
- 8) complete all administrative requirements, namely paying off SPP in the semester of the exam, free loans in each department and free loans from KOPMA, IKOTAWASI, Language Centers, Central Libraries and free loans/debts to research institutions or Internships/KKP;
- 9) register for undergraduate exams (example of thesis activity registration sheet in Appendix 10.).
- 10) submit the Thesis to the Undergraduate Examination Team no later than 1 (one) week before the exam is held.
- c. Undergraduate Examination Team (TPUS)
 - 1) Study Program Coordinator determines TPUS;
 - 2) Study Program Coordinator determines the exam schedule at the suggestion of KTAMA after obtaining TPUS approval;
 - 3) Cancellation of the exam can be done with the approval of the Study Program Coordinator and/or KTAMA's proposal;
 - 4) The organizational structure of the TPUS consists of the Chairman concurrently the Secretary and Members of the Examiners;
 - 5) The Head of the Examination Team according to their position is the Head or Secretary of the Department/Prodi;
 - 6) TPUS members are the Advisory Team (Supervisor I and Supervisor II) plus 1-2 Lecturers who are Examiners who have fields of knowledge related to the content of student thesis;
 - 7) Lecturers who are not Examiners can come from Lecturers of the same Department, Department or other Institutions that have fields of knowledge related to the content of student Thesis. The requirements to become an Examiner Lecturer and not the Advisory Team are the same as those for Supervisor II.
- d. Duties and Rights of the Examination Team
 - 1) The Chairperson of the TPUS is in charge of managing the smooth implementation and trial of the Undergraduate Examination.
 - 2) The examiner has the right to test and provide an assessment.
- e. Implementation of Undergraduate Examination
 - 1) Head of Department/Department Secretary/Prodi Coordinator leads the implementation of the Undergraduate Examination.
 - 2) The Undergraduate Examination can take place if it is attended by at least the Chairperson of the TPUS, one of the Supervisors, and one of the examiners who is not the Advisory Team.
 - 3) Supervisors who for some reason cannot attend as TPUS, are allowed to self-examine with the approval of the Head of Department/Prodi, after the exam is carried out.
 - 4) If for any reason the non-supervising examiner is unable to attend, the person concerned is not allowed to test himself.

f. Undergraduate Examination Time

The time allotted for the implementation of the Undergraduate Examination is no longer than 2 (two) hours or 120 minutes.

g. Undergraduate Exam Assessment

1) Each Examiner gives value to the Thesis and tested answers during the exam.

2) For the assessment, numbers 1-100 are used.

3) Determination of the final value is as follows:

4) The final score is proportional based on the weight of credits for each activity during the implementation of the thesis with the conditions as in Table 1.

Table 1.	Determination	of the final	score of the	thesis exam	based on t	he weight of	each component
						0	1

No	in the thesis exam Assesment Component	Persentage (%)	
1	The value of the research plan proposal seminar	15	
2	Seminar value of research results	15	Used 70% of
3	contents of the thesis	30	the test score
4	Research methodology	20	
5	Thesis language	20	
6	Author's responsibility (ability to answer questions)	30	

The value of the thesis examination is as follows: 15% value of the proposed research plan seminar + 15% value of the research results seminar + 70% value of the table exam results. The conversion of thesis exam scores can be seen in Table 2.

No	Raw Grade	Fina	al Grade	Graduation Statement
		Grade	Number	
1	≥ 80 - 100,00	А	4.00	Pass
2	77,50 - < 80,00	A-	3.75	Pass
3	75,00 - < 77,50	AB	3.50	Pass
4	72,50 - < 75,00	B+	3.25	Pass
5	70,00 - < 72,50	В	3.00	Pass
6	67,50 - < 70,00	B-	2.75	Pass
7	65,00 - < 67,50	BC	2.50	Pass
8	62,50 - < 65,00	C+	2.25	Pass
9	60,00 - < 62,50	С	2.00	Pass
10	57,50 - < 60,00	C-	1.75	Fail
11	55,00 - < 57,50	CD	1.50	Fail
12	52,50 - < 55,00	D+	1.25	Fail
13	50,00 - < 52,50	D+	1.00	Fail
14	< 50,00	Е	0.00	Fail

Table 2. Guidelines for converting the value of thesis exam results

- a) The head of the TPUS leads the determination of the final exam score on the basis of the provisions in the table above. An example of the results of the assessment in table 2.
- b) From the results of determining the grade, the final grade is converted to grades A, A-, AB, B+, B, B-, BC, C+, C, C-, CD, D+, D, or E.
- c) If necessary, value conversion guidelines can be used (Table 3.).
- d) Specifically for thesis exam scores, if the average score is less than C, then the student must retake the thesis exam.
- e) If the examinee is declared to have not passed the thesis exam, then the person concerned is required to take the Re-Examination no later than 2 months after the first exam took place.
- b. If after the thesis exam a student has to be revised, then the revision deadline is set at the latest 1 (one) month after the exam takes place. If the student concerned cannot complete the deadline, which has been set, the Undergraduate Examination will be aborted and must repeat the Undergraduate Examination.

A. Research Proposal

The research proposal for the thesis consists of 3 parts, namely the initial, main, and final sections.

1. Preface

- a. Front Cover (see Appendix 5);
- b. Title Page (see Appendix 6);
- c. Consent Page (see Appendix 7);
- d. Foreword;
- e. List of contents;
- f. List of Tables;
- g. List of Figures;
- h. Appendix List;

2. Main Parts

The main part of the research proposal consists of an introduction, hypothesis, literature review, research methods, results and discussion, and conclusions and suggestions.

a. Introduction/Background

The background begins with a description of the research topic according to student interests. For example, a student interested in crop protection begins with a background description with a topic related to pests, diseases or weeds, not a description of plants. Topic selection is done by giving reasons why the proposed topic is considered interesting, important, needs to be researched, or a solution is found. Descriptions need and need to be supported with statistical data or literature in the last 3 years. Furthermore, the topic needs to be limited by considering the trend of the research direction (state of the art) in the chosen topic and the research problem is then formulated as a proposition that connects the two concepts accompanied by a description of the position of the problem to be studied in a broader scope of problems supported by statistical data and reference literature in the last 3 years.

Based on important matters and reasons for the importance of the research topic or research title and previous research/track record of previous research (state of art) as many as 3-5 research results. The background to the problem explains why the problems raised in the research proposal are considered interesting, important, need to be researched or solutions are found and need to be supported by statistical data or quantitative data and empirical data for the last 3 years. In the research background, it is necessary to explain well and concisely about what is to be done in the research that will be carried out to provide solutions to the main problems in the research and needs to be supported by strong scientific foundations. In addition, it describes the position of the problem to be examined in a broader

scope of problems and is also supported by statistical data or quantitative data and empirical data for the last 3 years.

Objectives

The research objectives are formulated specifically, clearly, and are in line with the research title and the problems formulated (researched).

Benefits

Research benefits can be in the form of applied benefits for policy or theoretical benefits for scientific development.

Hypothesis (if any)

The hypothesis is a temporary answer to the problem to be studied. The hypothesis is formulated briefly, clearly, and in line with the problems and research objectives and research methods.

b. Literature review

Literature Review, as the name implies, contains reviews/reviews of various literature regarding concepts, theories, and the latest research results that are relevant to research topics and problems. Establishment of a Literature Review needs to be done to provide:

1) The scientific basis needed to explain the research problems and research hypotheses that have been prepared in the Introduction section so that the preparation of the Literature Review is carried out by referring to text books that describe concepts or theories, not by referring to farming books intended for farmers. , and by referring to scientific journal articles that are relevant to the topic and research problem.

2) The scientific basis needed in describing the Research Methods section so that the preparation of the Literature Review is carried out by referring to textbooks that contain research implementation procedures and scientific journal articles that contain descriptions of research methods

3) Positioning the research position among other similar studies so that it can show that research topics and problems are topics and problems which are state of the art in the field studied.

The preparation of the Literature Review is carried out by dividing the chapter into several sub-chapters according to the topic and research problem. In dividing the Literature Review chapter into sub-chapters, the first sub-chapter describes research topics that are in accordance with student study interests, not always describing plants, and the last sub-chapter describes the methodological basis of the research by referring to and discussing the research methods used in at least three recent scientific journal articles, two of which are international scientific journals. In the description of the research methodological basis, it describes the research design, data collection design, and data analysis design used in the referenced article accompanied by an explanation of each by referring to a textbook that describes the research methodology. Overall, the number of referenced references in the Literature Review is attempted at least 20 which consists of at least 70% of scientific journal articles.

c. Research methodology

The research method defines the approaches, methods and techniques used to carry out research, collect and analyze data that will be used to answer or explain research problems. The affirmation is as follows.

1) Place and Time

This section confirms the place and time of the research. The research time is calculated from the time after the research plan proposal seminar to the observation of research variables in the field or in the laboratory and statistical data analysis. The time of writing the thesis is not counted.

2) Materials and tools or objects of research

This section contains materials and tools that will be used in the research clearly and in detail with their specifications. In survey research, the object of research is included. 3) Research Design

Research can be designed using experimental methods (trials), observational methods (field observations), survey methods (surveys), or other methods that are appropriate to the problem under study. For research using the experimental method, the factors and levels to be

tested, the number of replicates for each factor level, the type of environmental design to be used, how to randomize the experimental units, and the size of the experimental unit space are described. For research using the observational method, as for example research on perennial plants where randomization is not possible as in the experimental method, the factors and levels to be studied, the type of quasi-experimental design to be used, the number of replications is described. apparent for each factor level, and the size of the experimental unit. For research using the survey method, the survey is carried out in at least one sub-district area, accompanied by a description of the village sampling design, household/farmer garden samples, and samples of observation units within the plantation.

4) Data Collection Plan

The data collection plan contains a description of the characteristics of the data collected, whether it is quantitative data or qualitative data. For quantitative data collection, the variables used are described, the operational definitions of the variables needed to carry out the measurement, whether the unit of observation, for example in experimental research and observational research, is carried out on the experimental unit as a whole or on samples in the experimental unit or in survey research, whether it is carried out on sample units or part of the sample unit (sub-sample), whether the variable measurement scale is nominal, ordinal, interval, or ratio, and whether the observation time is one time or repeated. For the collection of qualitative data such as for example plant morphology which cannot be measured quantitatively, symptoms of damage caused by pests, disease symptoms and/or signs of pathogens, soil qualitative characteristics, etc., the topic of the qualitative data to be collected is described, for example the topic for morphology plant are root morphology, stem and branch morphology, leaf and shoot morphology, flower morphology, and fruit and seed morphology.

5) Data Analysis Design

For quantitative data from experimental research and observational research it is determined whether the data will be analyzed using analysis of variance (Anova) techniques or using analysis of covariance (ancova) techniques and whether further tests will be carried out using multiple comparison tests (multiple comparison tests), orthogonal contrast test, or orthogonal polynomial test, accompanied by reasons regarding the choice of analytical technique. For repeated observation data it is described whether to be analyzed per observation time separately or analyzed simultaneously for the entire observation time, for example by using repeated-measure analysis of variance. For quantitative data from survey research, it is described whether it is analyzed descriptively or inferentially using analysis techniques, correlation analysis, regression analysis, etc.

6) Research Implementation Procedures

This section contains a brief description of certain procedures in the process of carrying out the research from preparation to the end of the study. For example, in experimental research, procedures for implementing things other than experimental factors are described, for example procedures for preparing seeds/seedlings, procedures for fertilizing and watering, procedures for pest control, etc., with a note that seeds/seeds, fertilization, irrigation and pest control are not factors. test. In survey research on pests, the procedures for asking permission to conduct interviews, procedures for collecting, storing and transporting pest specimens, procedures for collecting, storing and transporting soil samples, procedures for preparing and carrying out isolation and observing pesticides in the laboratory are described. In soil survey research, procedures for collecting, storing and transporting soil samples, handling and preparing soil samples for laboratory analysis, etc. are described.

7) Implementation Schedule and Research Budget

Implementation schedule contains plans for research activities and distribution of research time and is accompanied by a Cost Planning or RAB which is an estimate of the costs required for each research work. The total cost required to complete the research can be estimated from the start.

3. Final Section

The final part of the research proposal consists of a bibliography and attachments.

a. Bibliography

Bibliography contains only the referenced literature in the research proposal. A bibliography is created automatically using the Zotero application program for the libraries referred to in research proposals using the same application program. Before using it to refer to libraries and automatically generate a bibliography, the Zotero application program must first be set to refer to libraries using the Imperial College London – Harvard style by clicking the Edit menu > Preferences > Cite > Get additional styles > Stile search then typing Harvard in the box. browsing and then in the search box clicking on Imperial College London – Harvard. Bibliography elements that need to be included in the bibliography are different for each type of library. Imperial College London provides a Harvard-style guide and examples of referencing and bibliography at Harvard-guide-2022.pdf (imperial.ac.uk). Zotero provides a wider selection of library types and manages writing bibliography for each type of library automatically. A clearer description of the bibliography can be seen in the thesis bibliography (Appendix 16).

b. Attachment

The attachment contains complementary descriptions or evidence deemed necessary to further clarify the description in the research proposal. Attachments can be in the form of statistical data, empirical data and photos/pictures of research objects and other things that are deemed necessary. Pictures/photos of objects related to dimensions such as size, size or width should be placed with a ruler that clearly shows the scale or a 1000 rupiah coin next to the object photo before taking the photo as a size comparison or size marker (dimensions).

= other part of the guidelines is available in Bahasa=