

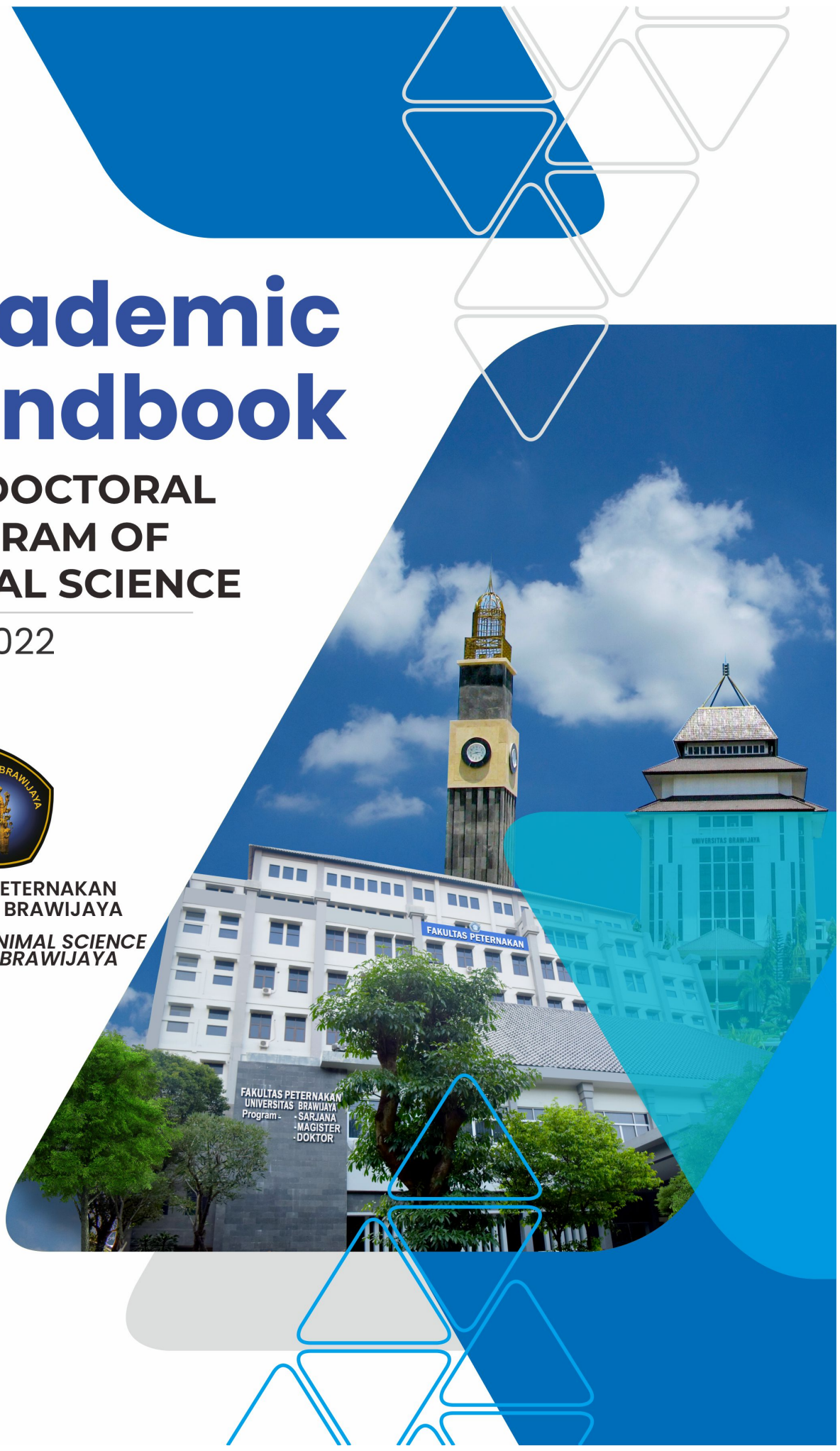
Academic Handbook

FOR DOCTORAL
PROGRAM OF
ANIMAL SCIENCE

2021/2022



FAKULTAS PETERNAKAN
UNIVERSITAS BRAWIJAYA
FACULTY OF ANIMAL SCIENCE
UNIVERSITAS BRAWIJAYA



Academic Handbook for Doctoral Programs

Faculty of Animal Science (DPAS)



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FOREWORD

Praise Allah, the Lord, for His blessings and guidance that enable the completion of the Academic Handbook for Doctoral Programs (S3) Animal Science (DPAS) Faculty of Animal Science (FAS) Universitas Brawijaya (UB) Malang. This academic handbook is arranged as guidance for all the students at the Faculty of Animal Science to organize their academic activities at DPAS -FAS UB.

This handbook contains general provisions, procedures, and rules for implementing education and curriculum for Doctoral programs at the FAS UB Malang.

Gratitude is due to the Composing Team for the Academic Handbook for Doctoral Programs (S3) Animal Science (DPAS) Faculty of Animal Science UB Malang as well as all parties involved in the composing of this handbook.

All suggestions that are helpful for the improvement of this handbook are very much welcome and thereby appreciated.

Malang, July 18th, 2022

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CHAPTER I

PRELIMINARY

1.1. Background

The Animal Science Doctoral Programs (DPAS) will always prioritize the quality of learning processes and outcome in organizing and implementing academic activities. In the context of this learning processes and outcome, basically "quality" is a subjective and relative definition. This is quite different with "quantity", which is always stated as a more absolute and objective concept. There are two reasons that can be used, those are:

- 1) Efforts to determine the quality of a process and activity result, either in the form of goods or commodities that are tangible, or in the form of merit or services that are 'intangible' generally influenced by subjective factors; because it refers to experiences, needs, expectations, tastes, and other attitude factors. Determination of quality becomes more difficult because it usually involves parties who provide/produce and parties who need/use the results. These two parties may refer to different quality attributes, based on different attitudes and needs. Feedback mechanisms usually produce agreement on the quality attributes that are reviewed and then used as a determinant of quality standards. In this sense, what is meant by quality is an agreement on the attributes of quality.
- 2) Attitudes and approaches to determining quality, are strongly influenced by the basic intent or purpose of the effort to produce something that will be assessed. The implementation of postgraduate education is based on various basic purposes or objectives by the intentions and needs of the community. At least, there are some general goals of the DPAS as a institution
 - a. Prepare human resources who have certain qualifications so that they can be productive in society, nation, and state. These basic aims and objectives refer to and are influenced by community development.
 - b. For fostering and training lecturers, researchers and thinkers. This basic purpose or objective refers to the development and study of science and relies on reasoning and analysis as a means of preparing the nation's next generation.

- c. For implementing an efficient, effective, and productive learning process. This basic purpose or objective is measured by students' learning abilities and seeks how these learning abilities can be developed through interactions between students and learning resources.
- d. Improve the quality of life of the community. This basic purpose or objective assumes that the 'added value' in the form of knowledge, skills and attitudes that increase in students, due to their involvement with academic activities at the Animal Science Doctoral Program will be converted into useful actions to improve the quality of life of the community, nation and state.

Matters regarding quality as above should be able to spur a more careful attitude in setting quality standards. Efforts to assess the performance of postgraduate academic processes and outcomes become even more difficult, due to a large number of 'stakeholders' on the results and performance; as leaders of academic institutions, academic staff, students, communities, government, private sector, and others. Each of these parties may demand that their interests should be used as the main reference. An attribute and quality standard of this learning process should be reflected in the goals stated by the postgraduate academic institution.

Based on the description above, it can be concluded that there are two important things, namely: (1) Determining the mission, aims and objectives of the institution is very important, (2) The quality of postgraduate academic outcomes is largely determined by learning process and its supporting facilities. Therefore, in order to support the implementation of quality academic activities in DPAS FAS UB Malang, one of them needs to be published an Academic Handbook for the DPAS, FAS, UB Malang. The manual is expected to be used as a guide for the academic community in carrying out the learning process and academic activities.

1.2. History of Doctoral Program Animal Science

Universitas Brawijaya Postgraduate Program (UB Postgraduate) was initiated in 1981. This pioneering started with a collaboration between UB and Gadjah Mada University (UGM) to organize the UGM-UNIBRAW Credit Collection Activity Program (Kegiatan Pengumpulan Kredit, KPK), at that time UB still had the abbreviation UNIBRAW. This program aims to assist UB in planning and implementing postgraduate education independently.

Based on the Decree of the Minister of Education and Culture No. 325/DII/1982, the UGM-UNIBRAW KPK Program opened Postgraduate Education (S2) for the Agricultural Socio-Economic Study Program. Furthermore, based on the Decree of the Minister of Education and Culture No. 348/D/1982, the UGM-UNIBRAW KPK Program opened the Plant Science Masters Study Program. Registration activities for prospective postgraduate students began at the University of Brawijaya in early 1982. In the academic year 1985/1986 the UGM-UNIBRAW KPK Program opened a Masters Program in Soil and Water Management based on the Decree of the Minister of Education and Culture No. 1872/DK/1985. In accordance with the development of capabilities and facilities owned by UB and the demands of stakeholders, in 1989 an Interest in Post-Harvest Technology was opened, and in 1990 an Interest in Animal Feed was opened (both in the Master's Program in Plant Science); Interest in Marketing was opened in 1990 (in the Master's Program in Agricultural Socio- Economic Studies). After eleven years of status as the UGM-UNIBRAW KPK Program, based on the Decree of the Director General of Higher Education No. 104, 105, 106/Dikti/Kep/93, since February 27, 1993, Postgraduate UB has carried out its activities independently with three Masters Study Programs, namely: (1). Agricultural Economics, (2). Plant Science, and (3). Soil and Water Management.

The development of undergraduate study programs in Universitas Brawijaya, and the increasing number of enthusiasts who want to open a new study program, starting from the academic year 1995/1996 UB Postgraduate opened seven Masters Study Programs, namely: (1). Post-Harvest Technology, (2). Animal Science, (3). Management, (4). Administrative Sciences, (5). Biomedicine, (6). Reproductive Biology, (7). Water Resources Engineering. Academic year 1998/1999 Postgraduate UB organizes 12 Masters Study Programs and one Doctoral Study Program in Agricultural Sciences. Since the 2003/2004 academic year, UB Postgraduate has held 20 Masters Study Programs and five Doctoral Study Programs.

In addition to the development of the number of study programs held, UB Postgraduate also shows a very good quality, including DPAS. Based on the results of accreditation by the National Accreditation Board (Badan Akreditasi Nasional, BAN) DIKTI, DPAS FAS UB has twice received A accreditation, in 2013 and 2018 as shown in Table 1.

Table 1. Results of Accreditation of Animal Science Study Program, Faculty of Animal Science, Universitas Brawijaya by the National Accreditation Board (BAN) DIKTI

No	Study Program	Decree of the Director General of DIKTI	Date	Accreditation
1	DPAS	055/SK/BAN-PT/Ak-X/D/II/2013	Feb 14 th , 2013	A
2	DPAS	3535/SK/BAN-PT/Akred/D/XII/2018	Dec 28 th , 2018	A

Based on the development of the number of study programs and interests in Postgraduate UB, in order to increase the effectiveness of the implementation of postgraduate programs at UB, the Chancellor of UB has issued a decree Number 30/SK/2006 dated February 21st, 2006 regarding the Implementation of the UB Postgraduate Program. Since the issuance of the decree, the management and implementation of several study programs in UB Postgraduate is transferred to several related faculties. Master of Animal Science Study Program FAS UB. Meanwhile, the management and implementation of the DPAS, which is one of the interests of the Doctoral Program in Agricultural Sciences, is still included in the Doctoral Program in Agricultural Sciences at the Graduate Program of the Faculty of Agriculture. Based on the Decree of the Minister of National Education No. 550/D/T/2008 dated March 5, 2008 concerning Permits to Organize DPAS at FAS UB, the management and implementation of the Animal Science Doctoral Program starting in the 2008/2009 academic year is managed by the Postgraduate of FAS UB.

1.3. Academy Community

The DPAS is managed by a Chair and Administrative Staff who report directly to the Dean of FAS. The DPAS has five interests, namely Animal Nutrition and Food Interest, Livestock Production Interest, Livestock Reproduction and Breeding Interest, Livestock Agribusiness Interest, and Livestock Product Technology Interest.

CHAPTER II

GENERAL PROVISION

2.1. Academic Calendar

Lectures and other academic activities at UB are carried out according to the academic calendar published by UB. At the end of every even semester, UB publishes an academic calendar for the next academic year. The academic calendar is distributed to all UB academics to be used as a guide in carrying out academic activities.

2.2 New Students Admission System

Admission of new students in DPAS considers the following: (1) Completeness of Academic Requirements, (2) Completeness of Administrative Requirements, and (3) Capacity.

2.2.1. Academic Requirements for Doctoral Program (S3)

1. Master's Degree Certificate
2. Cumulative achievement index (GPA) of at least 3.00.
3. Scientific works (journals, books, proceedings or the like).
4. Potential Academic Test certificate by Nasional Development Planning Agency with a minimum score of 500.
5. Certificate of English equivalent to TOEFL with a minimum score of 500.
6. Dissertation research plan to be carried out while pursuing the Doctoral Program.

2.2.2. Foreign Students Admission Requirements

Postgraduate FAS UB can accept students from abroad. The requirements needed to be accepted are as follows:

1. Have a diploma equivalent to a bachelor's degree to enter the master's program, and a diploma equivalent to a master's degree to enter the doctoral program, and get approval from the Ministry of Education, Culture, Research and Technology
2. Able to speak adequate Indonesian and obtain a study permit from the Ministry of Education, Culture, Research and Technology

3. Have the ability to speak English or a TOEFL certificate with a score of at least 500

2.2.3. New Doctoral Program Students Registration

1. Registration Procedures

Administrative registration is a process to fully-registered status as a student of Doctoral Program of Animal Science. Administrative registration for prospective new students After being officially accepted, the prospective student should meet the requirements and conditions, announced at <https://selma.ub.ac.id>. Administrative registration for continuing students .The administrative registration requirements for continuing students are announced at the <https://ub.ac.id> page at the end of each semester, and students must fulfil other academic requirements stated by each faculty/program.

The application is accompanied by the following documents in triplicate each:

- a. A copy of the last degree certificate.
- b. A copy of the list of grades while at the University that has been ratified
- c. Letters of recommendation from two people who can be considered capable of providing the applicant's academic eligibility.
- d. Scientific work after graduation (for those who are required)
- e. Curriculum Vitae.
- f. Health certificate, including Drug Free.
- g. Assignment letter/permit from superior (if the applicant has worked) that the person concerned is released from agency duties.
- h. Recent photographs size 4 x 6 (4 sheets).
- i. Certificate of source of funds and/or person in charge of study funds.
- j. Copy of Potential Academy Test certificate by Nasional Development Planning Agency with a minimum score of 500.
- k. Certificate and TOEFL certificate/TOEFL equivalent.
- l. Copy of valid ID (Identity Card).

2. Registration Time

- a. Candidate students with funding from the Postgraduate Scholarship Program from the Ministry of Education, Culture, Research and Technology, registration starts in January until the end of April (odd semester lectures).
- b. Candidate students with non-Scholarship funds from the Ministry of Education, Culture, Research and Technology. Registration is carried out 2 times / year starting in January - June to start lectures in the odd semester (September-December) and October-December to start lectures in the even semester (February-July).
- c. Selection of Candidate students
- d. The initial selection of Candidate students is carried out by a "peer group" consisting of the Dean, Deputy Dean I, Head of the Doctoral Program and Head of Department. The decision to accept students is decided by the Chancellor at the suggestion of the Dean. Acceptance and refusal to become a student will be notified in writing by the Dean of FAS UB to the address of each candidate student.

2.3. Students and Re-registration

Students of the Animal Science Doctoral Program FAS UB are students who are registered in DPAS UB in the current semester. Every student, both new and old, is required to re-register at the beginning of each semester according to the schedule set by UB. The re-registration is carried out in two stages, namely the Administrative Re-registration and the Academic Re-registration. Students who do not re-register for two consecutive semesters are declared to have resigned.

1. Re-registration procedure:

Re-registration of Administration: Students pay tuition fees to the bank determined by UB, for old students to the account number of the UB Chancellor by using NIM as data.

2. Academic re-registration

- a. Students submit proof of tuition payments.
- b. Students fill out registration forms, study progress reports, and Cards Study Plan (KRS).

CHAPTER III

DOCTORAL PROGRAM

3.1. Vision, Missions, Objectives, Goals and Strategies

3.1.1. Vision

To become an excellent educational institution for the Animal Science Doctoral Program nationally and internationally, and as a scientific reference center and implementation of science and technology through education and teaching, research, and community service.

3.1.2. Missions

1. Organizing education and learning process as well as carrying out research in the field of animal science, product development and implementation in accordance with the demands of science and technology and the latest problems.
2. Publish research results nationally and internationally regularly and continuously;
3. Develop and organize scientific cooperation and its implementation with relevant parties at regional, national and global levels;
4. Develop and implement quality standardization in a sustainable manner.

3.1.3. Objectives

Produce doctoral graduates who have the following competencies and qualifications:

1. Having noble ethics, having the spirit of Pancasila, and having high integrity and scientific spirit as well as being sensitive, open and responsive to the development of science and technology for solving problems in the livestock sector;
2. Having a graduate profile as a researcher and expert in the field of animal science; as a developer of science and technology, and as a policy maker;
3. Able to design, perform, develop and apply the latest science and technology in accordance with the demands of society;

4. Able to publish scientific works both nationally and internationally recognized by the scientific community in order to provide an active role and contribution to the development of science and technology broadly.
5. Able to develop cooperation with other agencies both at home and abroad and implement it responsibly, dynamically and sustainably.

3.1.4. Goals and Strategies

The DPAS sets four strategic issues as the main targets, namely (1) the competence of graduates who have independence in thinking and developing science and technology, (2) the relevance and quality of research, who play an active role in conducting innovative research independently or in groups, (3) the quality of community service, which is always creative in serving and applying science and technology according to the needs of the community dynamically; and (4) institutional cooperation, cooperation with other parties at home and abroad.

In addition, principally DPAS has a program to create graduates with the following profile:

1. As a researcher and developer of science and technology with quality, integrity, and responsibility and able to implement and communicate scientific work at national and international levels to solve problems in society and play an active role in the development of science and technology.
2. As experts in policy maker

The strategy for achieving and developing the four strategic issues is translated into four areas which include: (A) Education and Student Affairs Development, (B) Research Development, (C) Community Service Development, (D) Institutional Cooperation Development. The strategies set to achieve the goals and objectives consist of short, medium and long term strategies.

Short term strategy (1st - 3rd year):

- Increase the number of candidate students,
- Improving the quality of administration and substance of teaching and learning process both offline and online

- Improving the quality of research and the number of national/international publications
- Review and reconstruction of relevant, effective and efficient curriculum

Medium term strategy (years 3 - 4)

- Fulfillment of adequate number of lecture rooms
- Provision of student discussion rooms and facilities
- Increasing the number of national and international publications
- Increasing the number of teaching staff who have the requirements as lecturers in DPAS from various fields of science comprehensively

Long term strategy (4th - 5th years):

- Improvement of laboratory facilities supporting research or through resource sharing
- Increasing the qualifications of lecturers, especially with the title of Professor in various fields of science that are more specific
- Increasing number of international publications
- Increased collaboration with stakeholders

3.2. Students and Student Registration

Students of DPAS are students who are registered in DPAS in the current semester. Every student is required to re-register at the beginning of each semester according to the schedule set by UB and according to the procedure as described in sub-chapter 2.3.

3.2.1. Academic Staff

Academic staff at DPAS are lecturers with the academic position of Professor or at least Head Lector and the title of Doctor or employees from other agencies related to animal husbandry and with equivalent academic positions and degrees. Academic staff outside this provision is determined by the Dean of FAS, by considering the objective conditions of each academic staff concerned and the department/study program. This policy can be implemented if it is really necessary to maintain the quality of the teaching and learning process. Academic staff at DPAS consists of lecturers who support courses, supervisors, and examiners.

3.2.2. Lecturer

Lecturers who support courses are one or several academic staff as a team that is tasked and responsible for giving lectures, practicums, structured assignments and giving assessments to DPAS students in taking a course.

3.2.3. Advisory Commission

The advisory committee is an academic staff who is tasked and responsible for guiding students in carrying out and completing dissertation assignments. Each student is guided by three supervisors consisting of a promoter and two as co-promoters. The promoter is an academic staff from FAS UB with the academic position of Professor and Doctoral title. Co-promoters are academic staff from FAS UB or one of them from outside FAS-UB or foreign lecturers with the academic position of Professor or at least Head Lector and Doctoral degree or its equivalent. Based on "special considerations", students can propose an additional co-promoter that can help facilitate student academic activities provided that all funding is charged to the student concerned. Additional co-promoters can come from other institution.

The advisory commission is tasked with helping DPAS students to improve their academic abilities, including:

- Directing the courses that must be taken by students, to improve academic abilities to support the dissertation.
- Provide direction and advice to students in the process of preparing dissertation research proposals, supervising the implementation of dissertation research, guiding the process of data analysis and interpretation, writing articles for scientific publications, writing dissertation manuscripts, and being responsible for the adequacy of dissertation quality.
- Attending research proposal exams, research results seminars, and supervised student dissertation exams.
- Provide an assessment of the proposal for dissertation research, research implementation, seminars, dissertation manuscripts and dissertation examinations.
- Responsible for the process of activities and completion time of student studies in accordance with the time set.

3.2.4. Examiner Team

The examiner team is an academic staff who is tasked and responsible for testing, providing input and providing assessments to students in carrying out dissertation assignments in a formal exam, namely the dissertation research proposal exam and the dissertation final exam. The examiner team consists of the Advisory Commission plus three examiners, namely academic staff of DPAS and one of them comes from outside FAS UB who has a field of science relevant to the student's dissertation being tested.

3.2.5. Committee

In addition to the three components of academic staff above, to support student activities in pursuing a doctoral program, several committees were formed. Several committees involved in the educational process.

The doctoral programs are:

1. **The Qualification Exam Committee** is a group of academic staff in DPAS who is given the task of carrying out an assessment in the qualification exam. The committee consists of academic staff of DPAS whose fields of knowledge are relevant to the material for the qualification exam proposed by students, the Head of the Study Program of DPAS FAS acts as chairman of the session and administrative staff makes the minutes of the exam.
2. **The Dissertation Research Proposal Appraisal Committee** is a group of academic staff of DPAS who is assigned the task of evaluating research proposals for dissertations that have been approved by the supervisory commission. The committee consists of a supervisory committee plus at least three academic staff of DPAS whose field of science is relevant to the student's dissertation research proposal.
3. **The Dissertation Evaluation Committee** is a group of academic staff assigned the task of evaluating the dissertation manuscript which has been approved by the supervisory commission. The committee consists of a supervisory commission plus at least three academic staff of DPAS UB whose field of science is relevant to the student dissertation research report.
4. **The Dissertation Final Examination Committee** is a group of academic staff assigned the task of being examiners in the final examination of

doctoral candidates. This committee consists of the Dissertation Evaluation Committee and an examiner from outside the University of Brawijaya who meets the requirements as an academic staff of DPAS FAS UB.

5. All of the committees mentioned above are determined by the Decree of the Dean.

3.3. Education System

The education system of DPAS is implemented with the Semester Credit System (SCS) based on semester credit units that must be taken and collected by students. The conditions for one credit are set as follows: Lecture, research, dissertation and publication.

3.3.1. Study Load Terms

Student study load is an academic activity that must be carried out/participated by students, consisting of lectures, practicum, structured assignments, seminars and dissertations, which are limited to a certain number of credits per semester. Lecture activities consist of compulsory study program courses, compulsory interest courses and elective courses. The elective courses taken by students can be in the form of courses organized by other study programs with the approval of the Promoter. The dissertation activities consist of writing and examining research proposals, conducting research, seminars on research results, publishing articles, writing and examining dissertations.

The maximum number of credits taken in the first semester is 18 credits. The second semester and so on are adjusted to the academic activities and student achievement (GPA/IPK of the previous semester) as well as the direction of the Promoter.

1. The study load that must be taken by students to complete the DPAS Program are:
2. The doctoral program study load for participants with a master's degree in one field is 46 credits, consisting of 18 credits of lectures and 28 credits of a Dissertation.

3. The study load for the doctoral program for participants with other master's degrees is at least 46 credits, dissertation 28 credits, 6 credit in matriculation
4. The number of credits for dissertation activities is 28 credits consisting of the following components:

The DPAS equalizes the number of semester credit units with the European Credit System (ECTS) to improve the quality of learning on an international level. So that the supporting normative instrument or reference is the Regulation of the Minister of Education and Culture No. 3/2020, which states that the number of credits that must be taken by the Animal Science Doctoral Program is 46 credits. One SCU is determined based on lecturing activity load, including lecture, structured assignments and independent study. One SCU equals to 440 minutes per week per semester or 117.3 hours per semester and, meanwhile in Germany one ECTS equals to 30 hours. The conversion of SCU to ECTS (117.3 : 30). The table 3. below has shown the conversion of SCU to ECTS

Table 2.. Equivalence SCU with ECTS

Educational Background	SCU			ECTS
	Courses	Dissertation	Total	
Linear Study Program	18	28	46	179.91

Students' academic activities in completing the study load broadly consist of lectures and dissertation activities, where the weight of each activity is measured in semester credit units or credits which are described as follows:

1. Lecture activities

Lecture activities are mainly carried out in semester I and/or semester II with a total of 18 credits for participants with master's degree education in a plot or add 6 credits for participants with non-level master's education, which can be taken in the Matriculation Program. Lecture activities consist of lectures and structured assignments. Courses consist of compulsory courses and elective courses.

Compulsory courses must be taken by all students of DPAS FAS UB, while elective courses are taken if required by students according to their interests and dissertation research topics. The elective courses taken by students can be in the form of courses organized by other study programs at the discretion of the Program Chair or with the approval/assignment of the Promoter.

2. Dissertation Activities

The dissertation activities consist of writing research proposals, research proposal feasibility tests, conducting research, research results seminars, publishing articles, writing dissertations and dissertation feasibility tests (closed and open). The number of credits for dissertation activities is 28 credits.

3.3.2. Study Time Limitation

The length of study for DPAS students who come from master's degrees in the same field is scheduled for 6 (six) semesters and can be taken in less than six semesters with a maximum study length of 14 (fourteen) semesters. The length of study for DPAS students who come from S2 graduates who are not in the same field is scheduled for 7 (seven) semesters and can be taken in less than seven semesters with a maximum study length of 14 (fourteen) semesters. If there is something or other that causes a delay in the student's study period, the student concerned submits an application for an extension of study to the Dean (with the approval of the Promoter) in accordance with the ability to complete the study within the stipulated time. Each student who is not a scholarship recipient has the right to take academic leave for a maximum of 2 (two) semesters during his studies and is not calculated in the length of study, while students who receive scholarships from the government of the Republic of Indonesia are not allowed to take academic leave during the period of receiving the scholarship. Academic leave can be done by students for reasons of health problems/illness or childbirth so that in a long time it is not possible to carry out teaching and learning activities. For students who have not been able to complete their studies within seven years (14 semesters) without justifiable reasons, the student is declared to have failed to take part in DPAS.

3.3.3. Evaluation of Study Success

1. Evaluation method

To assess student achievement in academic activities, the following provisions are used:

- a. The assessment of the results of the examination of a course is left entirely to each lecturer who is in charge of the course with assessment standards.
- b. The final score for courses taught by more than one lecturer is the combined score of all lecturers combined by the coordinating lecturer.
- c. The final score is a combination of scores: structured assignments, practicum, mid-semester exams, and end-of-semester exams. Then the final value is determined in accordance with the criteria in item (d).
- d. The assessment system is carried out using Quality Letters and Quality Scores with the following criteria:

Table 3. The assessment grade

Range Score	Quality Letters	Quality Scores	Declaration
> 80 - 100	A	4,0	Excellent
> 75 - 80	B+	3,5	Very Good
> 69 - 75	B	3,0	Good
> 60 - 69	C+	2,5	Failed
> 55 - 60	C	2,0	Failed
> 50 - 55	D+	1,5	Failed
> 44 - 50	D	1,0	Failed
> 0 - 44	E	0	Failed

2. Evaluation of Success

- a. Students who at the end of the first semester have not been able to achieve a minimum GPA/IPK/Quality Scores of 3.0 for 18 credits of the courses with the best grades will be given a warning, so that they try better to improve their academic achievements in the following semesters.
- b. Students who at the end of the first semester can achieve a GPA > 3.00 for 12 credits of the courses with the best grades, the student concerned can apply for a qualifying exam in the second semester.

- c. Courses that get a D or C grade can be repeated and implemented in the next semester. The repeated courses can be done once and can be obtained up to the highest grade of the repeated courses.

3.4. Forms and Stages of Academic Activities

The Education of the Animal Science Doctoral Program of FAS UB is held in the form of lectures, qualification exams, dissertation activities and assignments from the promoter.

3.4.1. Lecture Activities

Lecture activities are held in the form of lectures, practicum, structured assignments and field work. The number of course credits that must be collected by a student is 18 credits consisting of six compulsory program courses (18 credits), and two elective courses which are expected to support dissertation activities in accordance with the direction of the promoter (2-4 credits). Lecture activities must be followed by every student, especially in the first semester.

3.4.2. Qualifying Examination

Qualification exam is a test that is administered orally by DPAS to assess students' academic abilities related to their feasibility in taking the next academic activity, namely dissertation activities.

Qualification exams are held a maximum of in the fourth semester which is scheduled by the Head of DPAS FAS UB on the proposal of students. If in the fourth semester the qualification exam has not been carried out, the first warning letter (SP1) will be given, if in the next semester the qualification exam has not been carried out, a second warning letter (SP2) will be given. will be considered unable to complete the doctoral program at DPAS FAS UB. Students who are eligible to take the qualifying exam must meet the following administrative and academic requirements:

1. Registered as a student of DPAS FAS UB in the current semester.
2. Have taken compulsory courses of study program and required interest with a minimum GPA/IPK of 3.00 for the best 12 credits and no D grade out of 18 credits taken.
3. Have the material for the qualifying exam.

Qualification exam material in the form of student scientific work in the form of research proposals, can be in the form of a dissertation research proposal or other research proposals in accordance with the student's field of science/interest. The research proposal is written according to the

Guidebook for Writing Thesis and Dissertation of DPAS FAS UB Malang and neatly bound with a light blue buffalo paper cover. The systematics of proposals as material for qualifying exams are as follows:

- a. **Front cover**
- b. **Front page** (Preface, Abstract, Table of Contents, and List of Tables/Pictures if any).
- c. **Introduction**, which contains the background of the research, certain phenomena that need to be observed, and the formulation of the problems proposed, the aims and objectives of the research and hypotheses (if any).
- d. **Literature Review**, which contains the results of the analysis (review) of the literature (derived from journals, collections of research articles, research progress reports from institutions) that are relevant to the research problem.
- e. **The framework** contains plans and thoughts to carry out thoughts in the form of narratives and flow diagrams.
- f. **Research Materials and Methods** contains the place and time of research, methods used by researchers to answer problems, setting examples, measured variables and operational limits, methods of measuring variables, methods and techniques of data analysis, analytical tools used and methods of presentation. and data analysis. This chapter also provides other information relevant to the implementation of the research.
- g. **References**, which contains a list of scientific papers used in preparing research proposals.

Students who are ready with these requirements can as soon as possible apply for a qualification exam to the Head of DPAS by filling out the form/file provided by the Academic Section of DPAS and a copy to the Dean of FAS . Based on the application letter and attached with predetermined requirements including a list of prospective examiners proposed by students, then the Academic Section of DPAS will process the preparation for the qualification exam.

The examiners in the qualification exam consist of 3 academic staff from DPAS FAS UB or from the Doctoral Program (S3) of other relevant

faculties and fulfill the requirements as promoters and co-promoters. Candidates for qualifying exam examiners are proposed by students as many as 3 to 6 candidates which are then determined and determined by the Head of DPAS together with the Dean of FAS-UB as many as 3 lecturers who examine qualification exams based on the suitability between the field of science of the examiners and the material for the qualification exam proposed by student. Qualification exams are held for 2-3 hours led by the Head of DPAS. The components of the assessment in the qualifying exam for the assessment are as follows:

Table 4. The Assessment proportion of qualification exam

No	Assessment Component	Value
1.	Students' abilities in presenting their work include: abstract, introduction (background, objectives, benefits, hypotheses), framework of thought, research methodology, literature (writing and up-to-date)	25 %
2.	Mastery of scientific substance and students' ability to submit scientific arguments in answering questions	25 %
3.	Originality of theoretical concepts (Following the Sililarity Rubric)	30 %
4.	Contribution to science and technology (Following the innovation rubric)	20 %
	Total	100 %

The results of the qualifying examination are assessed by the Qualification Examination Committee and announced as soon as possible after the qualifying examination is carried out. Students are declared passed if they get a minimum score of 69-75 (B).

Students who have passed the qualification exam can immediately take the next academic program in the Doctoral Program, namely dissertation activities. If a student does not pass the first qualifying exam, then the student is given the opportunity to take the re-qualification exam twice. The re-qualification examination is held at least one month after the previous qualifying examination. The re-qualification examination committee is the same as the first qualifying examination committee. If a student does not pass the re-examination twice, then

the student is declared unable to complete the FAS UB Doctoral Program Education and is declared drop out (DO).

3.4.3. Dissertation Activities

Dissertation activities can be carried out by students who have met the requirements, namely having passed the qualification exam. Dissertation is an academic paper resulting from studies and/or in-depth research carried out independently and contains new contributions to the development of science, or finding new answers to scientific problems, which is prepared by a doctoral candidate student under the supervision and guidance of a supervisory commission. (Promoter and Co-promoter). The number of credits for dissertation activities is between 28 credits consisting of several components as well as presenting the elements or components of the dissertation.

The dissertation activity is carried out through the following stages:

- A. Advisory Team Formation
- B. Commission Session for Writing Dissertation Research Proposal
- C. Dissertation Proposal Writing
- D. Dissertation Proposal Examination
- E. Dissertation Research Execution
- F. Commission Session for Dissertation Results
- G. Dissertation Research Articles Writing and Publication
- H. Dissertation Results Seminar
- I. Final Dissertation Writing
- J. Dissertation Final Examination (Dissertation Defense)

In addition to these stages, each student has the right to conduct a commission session with a supervisory commission as described in point 3.2.3. Commission Session. An explanation of these stages is as follows:

A. Advisory Team Formation

The Advisory committee (Promoter and Co-promoter) is formed in the second semester as soon as possible after the student is declared to have passed the qualification exam in the following manner:

1. Students propose two prospective promoters and three prospective co-promoters who meet the requirements to the Head of DPAS accompanied by a dissertation research proposal.

2. Based on the data in point (a), the Head of DPAS reports the list of names of candidates for the supervisory commission to the Dean.
3. Based on several considerations, namely 1) point (b), 2) the suitability between the field of science of the proposed advisory commission candidate and the student's dissertation research proposal, and 3) the number of students being mentored by the proposed advisory commission candidate at FAS UB, the Dean together with the Chairperson and DPAS. The FAS establishes a Advisory Commission for the student concerned. Based on these considerations, the Advisory Commission that is set does not always have to be the same as the Advisory Commission proposed by students.
4. Based on point (c), the Dean issues a decree for the Advisory Commission with a copy to the student concerned.
5. Under certain objective conditions and considerations, the Advisory Commission that has been determined can be changed. Changes to the Advisory Commission can be made if (1) the topic and or substance of the dissertation changes and is no longer in accordance with the field of study of the Advisory Commission, (2) is proposed by the Advisory Commission.

The procedure for changing the Advisory Committee:

1. Students propose a new Advisory Commission by filling out a proposal for a change in the Advisory Commission to the Chairperson of DPAS UB with the knowledge of the previous Advisory Commission.
2. Based on the data in point (a), the process of determining and determining the Advisory Commission is only carried out in accordance with the procedure for determining and determining the Advisory Commission as mentioned above in points 2, 3, and 4.

B. Commission Session for Writing Dissertation Research Proposal

The commission session is a session that involves a student together with all his supervisory commissions and is held by DPAS FAs UB. The main purpose of the commission session is to equalize perceptions between students and their supervisory commissions and also between supervisory commissions regarding the proposed dissertation research that will be carried

out by students. The commission session is held for 2-3 hours, led by the promoter, and attended by all the Co-promoters, one of whom acts as the secretary of the session and by the student concerned. The material for the commission session is a pre-proposal for dissertation research which must have been prepared by students in a systematic way as in the qualification exam material and neatly bound with a cover made of light yellow buffalo paper (the color of the leaves). Therefore, after the Advisory commission is formed and students have made a dissertation research proposal, it is highly recommended that students immediately submit a letter of request for the implementation of the supervisory commission session for writing a dissertation research proposal to the Chairperson of DPAS by filling out the form/file that has been submitted. provided by the Academic Section of DPAS and a copy to the Dean of FAS . Based on the application letter and attached with the materials for the commission session, then the Academic Section of the DPAS Program will process the preparations for the commission session.

C. Dissertation Proposal Writing

The dissertation research proposal is a student's paper containing the dissertation research activity plan. The research proposal is written in Indonesian or English in accordance with the Dissertation Writing Guidelines for DPAS FAS UB Malang, with the following systematic:

- 1. Front cover**
- 2. Front page** (Preface, Abstract, Table of Contents, and List of Tables/Pictures if any).
- 3. Introduction**, which contains the background of the research, certain phenomena that need to be observed, and the formulation of the problems proposed, the aims and objectives of the research and hypotheses (if any).
- 4. Literature Review**, which contains the results of the analysis (review) of the literature (derived from journals, collections of research articles, research progress reports from institutions) that are relevant to the research problem.
- 5. The framework** contains plans and thoughts to carry out thoughts in the form of narratives and flow diagrams.

6. **Research Materials and Methods** contains the place and time of research, methods used by researchers to answer problems, setting examples, measured variables and operational limits, methods of measuring variables, methods and techniques of data analysis, analytical tools used and methods of presentation. and data analysis. This chapter also provides other information relevant to the implementation of the research.
7. **References**, which contains a list of scientific papers used in preparing research proposals.

Students are consulted and guided by a advisory committee in writing research proposals. The dissertation research proposal that has been approved and signed by the advisory commission and neatly bound with a cover of dark blue buffalo paper can be submitted to the Dean through the Head of DPAS to be tested for feasibility by the dissertation research proposal evaluation committee in the feasibility test of the dissertation research proposal.

D. Dissertation Proposal Examination

The dissertation research proposal exam is an exam held by DPAS to evaluate the feasibility of the dissertation research proposal submitted by students and has been approved by the advisory commission.

The procedure for submitting a dissertation research proposal examination is as follows:

1. a. The head of the advisory commission (Promoter) proposes the implementation of a dissertation research proposal test to the Dean through the Head of DPAS by filling out the form that has been prepared by the Academic Section of DPAS.
2. Based on the proposal, the Dean together with the Head of DPAS set three academic staff as examiners outside the advisory commission.
3. Based on points (a) and (b), the Academic Section of DPAS will process the preparation for the implementation of the dissertation research proposal exam for the student concerned.
4. The research proposal examination is led by a chairperson and a session secretary. Acting as chairman of the session is the chairman of the advisory commission (Promoter) and as the secretary of the session is one of the members of the advisory commission (co-promoter). If the head of the

advisory commission is not present for reasons that can be accounted for in official terms, the exam will be led by the Dean or an authorized official at FAS UB with a minimum position of Professor and Doctoral title and assigned by the Dean to be chairman of the session. The research proposal examination can only be carried out if it is attended by at least the chairman of the session, at least two advisory commissions, and two examiners. Exams cannot be conducted outside the exam forum.

The dissertation research proposal exam is carried out for \pm 120 minutes with the test material in the form of a research proposal manuscript that has been approved and signed by the supervisory commission. The components assessed include:

Table 5. The Assessment proportion of proposal disertation exam

No	Assessment Component	Value
1.	Students' abilities in presenting their work include: abstract, introduction (background, objectives, benefits, hypotheses), framework of thought, research methodology, literature (writing and up-to-date)	25 %
2.	Mastery of scientific substance and students' ability to submit scientific arguments in answering questions	25 %
3.	Originality of theoretical concepts (Following the Sililarity Rubric)	30 %
4.	Contribution to science and technology (Following the innovation rubric)	20 %
	Total	100 %

The final results of the assessment of the dissertation research proposal are determined by deliberation based on the values given by the dissertation research proposal evaluation committee (examiner team) and announced directly to the students concerned.

The pass mark for the dissertation research proposal exam is 69-75 (B). If the score is less than that, students are required to repeat the dissertation research proposal exam within 1 - 2 months after the first exam. If the student does not pass again in this re-examination, the advisory commission assigns a special task to improve the research proposal and the student's academic ability and be tested again in the re-examination.

Students who have passed the dissertation research proposal exam are required to immediately revise their research proposal in accordance with the suggestions from the dissertation research proposal review committee while consulting with the advisory committee. The dissertation research proposal that has been approved (signed) by the advisory commission and neatly bound with a cover of light yellow buffalo paper (the color of the leaves) is requested for approval from the head of the study program . Students who are ready with the dissertation research proposal can be referred to as doctoral candidates (promovendus) and then the students concerned can immediately carry out dissertation research by referring to the approved dissertation research proposal.

E. Dissertation Research Execution

The implementation of the research is the implementation of the activity plan that is prepared in the dissertation research proposal which has been assessed as feasible in the dissertation research proposal examination, signed by the advisory commission, and approved by the Dean. The implementation of the research must be in accordance with the activity plan that is prepared in the dissertation research proposal mentioned above. During conducting research, students are required to use a Log-Book to document each process/research activity and at the same time as a means of communication between students and their advisory committee. The research implementation must be supervised by the chairman of the advisory commission or his representative. For this reason, every student who is carrying out dissertation research must report his activities to the Academic Section of DPAS. Based on the report, the Head of DPAS will ask the head of the advisory commission to supervise the implementation of dissertation research that is being carried out by students.

F. Commission Session for Dissertation Results

Students who have finished carrying out dissertation research and are ready with research data (raw data), are required to immediately submit a letter of request for the commission hearing of the results of the dissertation research to the Head of DPAS by filling out the form/file provided by the Academic Section of DPAS and a copy to the Dean of FAS. Based on the application letter and attached with the commission session material, then the Academic Section of DPAS will process the preparation for the commission session.

The purpose of the commission hearing on the results of the dissertation research is to evaluate the suitability of the proposal, the quality, validity and feasibility of the dissertation research data and determine the next steps that must be taken by students.

G. Dissertation Research Articles Writing and Publication

Manuscripts of journal articles, at least two articles, which have been approved by the advisory committee. Publication of articles is scientific writing based on the results of dissertation research published in scientific journals. Scientific journals are international journals indexed by Scopus, Thomson Reuters, Microsoft Academic Search, and other journals determined and announced by the university in accordance with Pertor No. 52 of 2018 concerning dissertations and publication of articles in scientific journals as the final assignment of doctoral program education. The format for writing journal articles follows the procedure for writing journal articles in the Dissertation Writing Guidelines for DPAS Malang.

H. Dissertation Results Seminar

Seminar on research results is an academic activity that must be carried out by students of DPAS after completing research. Students who are ready with seminar material, namely dissertation research articles that have been approved by the advisory commission, can immediately conduct a dissertation research seminar. For this reason, students are requested to consult with the advisory committee regarding the seminar schedule and other matters related to the seminar implementation plan, then the advisory commission proposes the seminar schedule to the Head of DPAS for further processing.

The seminar on research results is organized by DPAS as a presentation of research results that have been carried out by doctoral program students with relevant scientific community audiences.

The seminar on the results of the dissertation research is led by a chairperson and a session secretary. Acting as chairman and secretary of the session are DPAS students and as examiners are the supervisory commission team and examiners outside the supervisory team. The seminar on the results of dissertation research can only be carried out if it is attended by at least the Promoter, at least two advisory commissions, three examiners, and attended by at least 10 student participants and/or DPAS academic staff, as well as other parties who interested in the results of the research in the seminar. The seminar material is in the form of article

manuscripts for journal publications that have been approved by the advisory commission.

The pass value for the seminar on research results is at least 69-75 (B). Seminar material on research results that have been presented and is feasible and has been improved in accordance with the suggestions given at the seminar must be immediately sent to the editors of national or international accredited journals or presented in international seminars. If the score is less than the above value, the student must repeat the research seminar and be given one more chance. If the student does not pass again, then based on the advice and agreement of the examiner team concerned, they are given the task to improve the seminar material on research results, add research or repeat research that has been carried out or is declared to have failed in taking studies in the DPAS.

The assessment of the research results seminar is based on:

Table 6. The Assessment proportion of seminar research exam

No	Assessment Component	Value
1.	Seminar on Dissertation Research Results: -Format, flow, and chronology of seminar scripts (20%) -The suitability/completeness of the results and discussion to answer the problems in the research (80%)	40 %
2.	Manuscript Presentation/Presentation: - Flow, chronology and clarity of presentation (20%) - The suitability of the presentation material with the seminar script to answer research problems (80%)	20 %
3.	Discussion/Question/Dialogue: - The ability of students to understand the scientific substance of the seminar material (40%) - Students' ability to answer questions and argue and explain research results related to research problems (60%)	40 %
	Total	100 %

I. Final Dissertation Writing

The dissertation manuscript is a student's writing based on the results of the dissertation research that has been carried out. Writing is carried out by students and supervised by advisory committee. The format for writing the dissertation manuscript follows the Dissertation Writing Manual. The dissertation manuscript that has been approved by the advisory commission is used for the material for the Dissertation Final Examination, which can be written in Indonesian or English. In addition, students write article publications. Publication of articles is scientific writing based on the results of dissertation research published in scientific journals.

Scientific journals are international journals indexed by Scopus, Thomson Reuters, Microsoft Academic Search, and other journals determined and announced by the university in accordance with the Chancellor's Decree number 52 of 2018 concerning dissertations and publication of articles in scientific journals as the final project of doctoral program.

J. Dissertation Final Examination (Dissertation Defense)

The final examination of the dissertation is open, organized by the DPAS for Doctoral Program students who have met the applicable requirements. Basically the final examination of the dissertation is to assess the ability of promovendus in a comprehensive and open manner witnessed by academic colleagues and other invited parties; and at the same time to provide an overview of the implementation of the doctoral program in DPAS in terms of quality and objectivity, as well as its contribution to the development of science and technology and the development of society, the nation and the Unitary State of the Republic of Indonesia.

Students who have corrected the dissertation manuscript in accordance with the suggestions from the dissertation seminar, and the dissertation manuscript has been approved by all advisory commissions and duplicated as needed and submitted to the Head of DPAS. The publication of articles from the dissertation has been accepted in the journal that will publish. If these requirements have been completed, then the student has fulfilled the requirements to carry out the Final Dissertation Examination. For this reason, students who are known by the advisory commission submit a plan for the implementation of the exam to the Dean through the Head of DPAS. Based on the proposal, the Dean has appointed a Dissertation Final Examination Committee consisting of advisory commission and three academic staff of DPAS FAS UB and 1 person from other agencies besides FAS who meets the requirements as dissertation assessors (examiners). The head of DPAS coordinates the administration of the exam and invites the Dissertation Final Examination Committee according to the schedule and place of the exam that has been set.

The final dissertation examination is carried out for a maximum of \pm 180 minutes with the dissertation manuscript material that has been approved and signed by the advisory commission. The Final Examination of the Dissertation is led by the Dean of FAS UB or assigned. The exam is conducted orally where the promovendus presents the results of the research and conveys scientific arguments

to answer the questions posed by the dissertation final exam committee. The exam can be carried out if attended by at least two advisory committees (Promoter and/or Co-promoter) and three examiners, one of whom is from outside UB.

The components that are taken into consideration in evaluating a dissertation in the Dissertation Final Examination include the promovendus' ability in presenting the results of his research, the ability to convey scientific arguments in defending his dissertation, mastery of research methods, mastery of scientific substance, and the contribution of his research results to the development of science and technology and development. Dissertation Final Examination scores are calculated based on the scores (numbers) of all members of the Dissertation Final Examination Committee present. The assessment components of the Final Dissertation Examination include:

Table 7. The Assessment proportion of dissertation defense

No	Assessment Component	Value
1.	Dissertation Manuscript: - Format, flow, and accuracy of dissertation writing (20%) - Chronology, linkages and conformity between chapters, completeness of data and discussion and up-to-date literature in answering problems in dissertation research (80%)	30 %
2.	Mastery of Dissertation Substance - Students' ability to understand the scientific substance of dissertation research (20%) - Students' ability to answer questions and put forward scientific arguments in answering questions related to problems in dissertation research (40%) - The ability of students to relate the substance of the dissertation to the development of science and technology and current phenomena (40%)	50 %
3.	Originality of theoretical concepts	10 %
4.	Contribution to science and technology	10 %
	Total	100 %

Immediately after the Dissertation Final Examination is completed, the Dissertation Final Examination session is temporarily suspended to allow time for the Dissertation Final Examination Committee to hold a meeting to determine the passing of the dissertation final examination. For students whose scientific articles have been published, they will go directly to the judiciary.

3.5. Judicium and Graduation

The final dissertation score is a combination of the results of the assessment of the components in the dissertation activity starting from the proposal exam to the

Dissertation Final Exam, which is calculated by the proportion or weight of each value as follows which is stated in the quality letter score.

Table 8. The Assessment proportion of dissertation final defense

No	Dissertation Assessment Components	Value
1	Dissertation Research Proposal Exam Score	20 %
2	Value of Special Assignments by the Advisory Team	5 %
3	Results of Assessment of the Implementation of Dissertation Research	20 %
4	Value of Dissertation Research Results Seminar	5 %
5	Results of the Assessment of Scientific Work Publication of Dissertation Research Results	25 %
6	Dissertation Final Examination Score (Open Public Examination)	25%
	Total or Final Dissertation Score	100 %

The score is then read out to the students in the graduation program which is a series of the Dissertation Final Examination program. In the graduation ceremony, students' graduation and GPA/IPK are also read out, and if they are declared passed, the student's graduation predicate is also read. Students who have met the graduation requirements and have submitted a number of dissertation manuscripts and completed all other administrative requirements can immediately register themselves to the Academic Section of DPAS and are entitled to hold the academic title of Doctor (Dr) and get a graduation predicate according to the following conditions:

1. Graduated with *cum laude* predicate:

- a. Students graduate with GPA > 3.75, a maximum length of study of 6 semesters, and the dissertation score = A.
- b. Publish the results of dissertation research with more than one article title in international journals, preferably accredited by DIKTI or reputable international scientific journals.

2. Graduated with a very satisfactory predicate:

If the student passes with GPA = 3.7-4.00, but does not meet the criteria in point (1) or if the student passes with GPA = 3.50 -3.75.

3. Graduated with satisfactory predicate:

If the student graduated with a GPA = 3.00-3.50. After attending the graduation, students are entitled and obliged to attend graduation. The schedule for the graduation ceremony is determined regularly by the faculty, while the graduation schedule is determined regularly by the university.

3.6. Failed Study

Students are declared failed studies, if:

1. GPA < 3.00 in each semester (according to study plan card (SPC) and study result card (SRC)), unless the first semester is given a warning, or
2. Not carrying out the qualifying exam until the specified time limit or
3. Did not pass the dissertation proposal exam, or
4. Failed to pass the dissertation exam, or the study period is over, they have not been able to complete the study load in accordance with the regulations.

3.7. Certificate and Graduation

If students have attended the graduation, then students can then register themselves to the Academic Section of DPAS to take part in the graduation and are entitled to a certificate and transcript as well as a number of photocopies which have been legalized by the faculty leadership. Graduation is held according to the schedule determined by UB

3.8. Commission Session

In addition to the stages of completing the dissertation activities mentioned above, every student has the right to conduct commission sessions. The commission session is carried out by students together with all the advisory commissions. The purpose of the commission session is to equate perceptions between students and the advisory commission and between the advisory commissions regarding the process of carrying out dissertation activities by students.

Each student is only entitled to hold commission sessions twice during his studies. Therefore, students must be able to take advantage of the commission session as effectively as possible. Under certain conditions, a student may hold commission sessions more than twice. Funding for the third commission session and so on is fully borne by the student concerned.

3.9. Curriculum

The curriculum of the Animal Science Doctoral Program DPAS consists of six compulsory program courses (18 credits) and ten elective courses (20 credits). The elective courses taken according to needs (2-4 credits) and support dissertation activities. The curriculum of the DPAS Doctoral Program is presented in Chapter VI.

In addition to the curriculum, to support the implementation and completion of dissertation activities, students are allowed to take elective courses from other study programs in the Postgraduate Program outside FAS UB. Taking these courses must be on the advice and approval of the advisory committee.

3.10. Study Calendar Planning for Students

In order for the completion of the student study program to be carried out on time (six semesters), the implementation of student academic activities can be carried out according to the schedule as listed in the following Figure 1. Diagram of the implementation schedule of academic activities for DPAS students, FAS-UB, Malang. The student who have not been able to complete within 6 semesters, are grouped into students who need special monitoring and fostering.

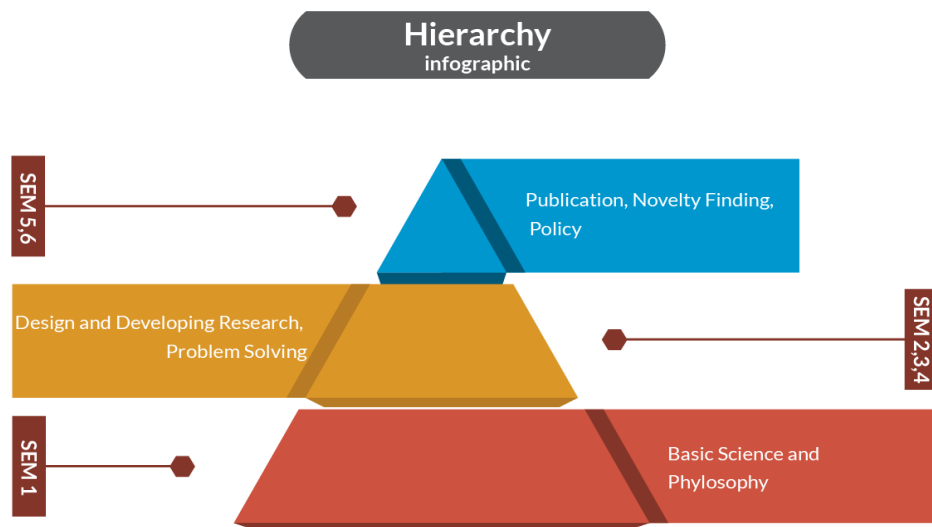


Figure 1. Diagram of the implementation schedule of academic activities for DPAS students

CHAPTER IV

CURRICULUM AND SYLLABUS OF DOCTORAL PROGRAMS

4.1. Graduate Profiles and Graduate Competencie

The DPAS curriculum is an implementation of educational goals as stated in the Education Manual book where the purpose of education is to produce professional doctors who fear God the Almighty, have a Pancasila spirit, master scientific basics and skills in the field of animal science, are able to apply science and technology in the field of animal husbandry, able to work in the field of animal husbandry, able to behave and behave in social life, and able to always follow the development of science and technology in the field of animal husbandry. The role of Doctors in the field and the demands of technological developments, graduates of DPAS are expected to have profiles as: (1) As a researcher (Researcher) and developer of science and technology with quality, integrity, responsibility, able to implement and communicate scientific work at national and international levels to solve problems in society and play an active role in the development of science and technology. Problem solving with the latest comprehensive and integrated empirical method approach by developing research activities through inter, multi, and transdisciplinary approaches to produce creative, original and tested works that receive national/international recognition. (2) Policy makers: As experts in policy making.

The achievement of this profile can be achieved by several categories of learning outcomes including the main competencies, supporting competencies and other competencies. Learning Outcomes for each semester are formulated in Figure 2. The types of competencies that must be presented in Table 8. The length of study to complete education at DPAS can be taken for 6 semesters and a maximum of 14 semesters. In semester I and II, DPAS students can take lectures by programming compulsory and elective courses (according to interests), students are allowed to take courses in other PS to support research with the recommendation of the Promoter and Head of DPAS. In semesters I and II, lectures aim to provide basic concepts and developments, so that students are able to reason, give arguments, express opinions (oral and written) clearly, see things through a wider lens, see and consider different opinions and views and provide habits and wisdom to see and solve problems in everyday life. Semester III, IV and V design research and carry out research. Semester VI, VII and VII increase insight based on the study of research results so that they are able to produce updates or make decisions and

recommend policies through research results, add accumulated knowledge, be skilled in presenting work orally and in writing.

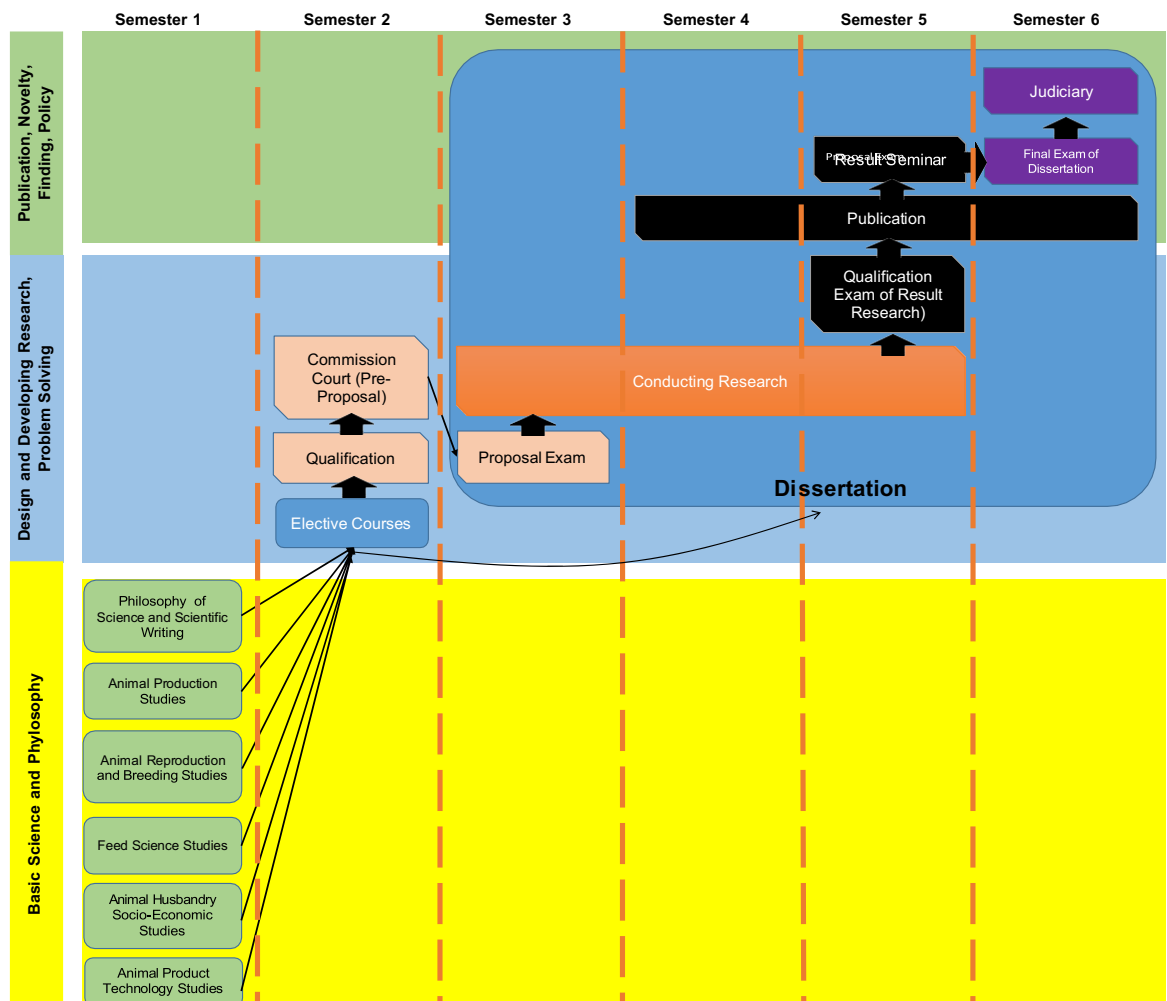


Figure 2. Learning Outcomes for each semester

The graduate profile contains the roles that are expected to be carried out by graduates of the study program in society/the world of work. This profile is the outcome that is the goal of the DPAS study program. The graduate profile that has been set at DPAS is a guarantee of learning achievement for prospective students during the learning process according to the profile in DPAS, namely researchers and policy makers. The competency matrix and profile of DPAS graduates and the real of competence are presented in Table 8.

Table 9. Competency matrix, ILOs and profile of DPAS student

Learning Outcomes	ILOs	Competencies	Researcher	Policy maker
Main Competencies		Attitude competence:		
	ILO1	Able to intervene in animal science issues at the macro level	o	o
		Knowledge competence		
	ILO2	Mastering the theoretical philosophy of the relevant animal science field to intervene in livestock problems	o	o
		General competence		
	ILO3	Able to expand and deepen new animal science theory through multi and transdisciplinary approaches to contribute to the achievement of the vision and mission of DPAS FAS UB.	o	o
		Special competence		
	ILO4	Able to contribute in the formulation of policies related to social welfare at the macro level through animal science development		o
Additional competencies		Knowledge competence		
	ILO5	Finding or developing scientific theories/ conceptions/ ideas, and contributing to the development and practice of science and/or technology in the field of animal husbandry based on scientific methodologies, logical, critical, systematic, and creative thinking	o	o
		General competence		
	ILO6	Develop a research roadmap with an inter, multi, and transdisciplinary approach, based on a study of the main research objectives and relationships with broader objectives	o	
	ILO7	Compile a dissertation based on the results of in-depth, multi- or trans-disciplinary research that has been carried out including theoretical and/or experimental studies in the fields of science, technology, art and the resulting innovations	o	o
	ILO8	Publish research results in their scientific fields in national and international accredited scientific journals, unless there are special restrictions from research grant providers that require data security and confidentiality	o	
		Special competence		
	ILO9	Choose appropriate, current and advanced research and provide benefits to mankind through an inter, multi, or transdisciplinary approach, to develop and/or produce problem solving in the fields of science, technology, and art,	o	
Other competence		Other competence		
	ILO10	Demonstrate academic leadership and develop collegial relationships in managing, developing and fostering resources and organizations under their responsibility as well as communities outside the institution	o	

4.2. Curriculum of Animal Science Doctoral Programs

Table 10. The list of DPAS courses

1. Compulsory Courses			
N o.	Code	Courses	cred its
1	PEF 90000	Philosophy of Science and Scientific Writing	3
2	PEP 91001	Animal Production Studies	3
3	PER 92001	Animal Reproduction and Breeding Studies	3
4	PEM 93001	Animal Feed Studies	3
5	PES 94001	Animal Socio-Economic Studies	3
6	PET 94001	Animal Products Technology Studies	3
2. Livestock Production Option Course			
1	PEP 91002	Production of Non-Ruminant and Miscellaneous Animal Strategy	2
2	PEP 91003	Ruminant Livestock Production Strategy	2
3. Livestock Reproduction and Breeding Elective Course			
1	PER 92002	Animal Reproductive Biology	2
2	PER 92003	Animal Genetic Quality Improvement Strategy	2
2. Optional Courses Interested in Nutrition and Animal Feed			
N o.	Code	Courses	cred its
1	PEM 93002	Non-Ruminant Small Project	2
2	PEM 93003	Small Project Ruminants and Forages	2
4. Animal science Agribusiness Elective Course			
N o.	Code	Courses	cred its
1	PES 94002	Analysis and synthesis of Livestock Agribusiness development	2
2	PES 94003	Digital-Based Livestock Agribusiness	2
5. Compulsory Course for Interest in Animal Products Technology			
N o.	Code	Courses	cred its
1	PET 95002	Animal Product Technology Development	2
2	PET 95003	Animal Product Bioprocess Technology	2

4.3. Courses Syllabus and Course Learning Outcomes (CLO)

Table 11. Courses Syllabus and Course Learning Outcomes (CLO)

No	Code	Courses	Description and Course Learning Outcomes
1	PEF 9000 0	Philosophy of Science and Scientific Writing (3 X 0 credits)	<p>Description Reviewing and providing an understanding of the philosophy of science and theory of truth, describing critical thinking-analysis of knowledge to be reasoned deductively and inductively, understanding the nature and meaning of research, as well as strategies for preparing proposals and research reports that are reliable based on the principles of writing scientific papers that are good and right</p> <p>CLO 1. Students are able to think critically, creatively and analyze the truth of theories based on the philosophy of science 2. Students are able to reason with the knowledge obtained and make deductive and inductive conclusions 3. Students are able to prepare proposals and dissertation research reports according to their nature and meaning 4. Students are able to write good and correct scientific papers, and have a commitment to norms and ethics in scientific studies</p>
2	PEP 9100 1	Animal Production Studies (3 X 0 credits)	<p>Description The subject of Livestock Production System Science and Studies aims to provide an understanding of livestock production system policies as an aspect of national development studies in terms of fulfilling food adequacy of animal origin in terms of current scientific and technological principles as well as overall achievement methods. Discussion and emergence of ideas or innovations using basic knowledge of concepts, scientific theory is needed as a basis for reviewing regulations that apply to national development goals, logical prospective studies and follow-up on weaknesses and strengths of livestock production systems</p> <p>CLO 1. Able to formulate problems, formulate hypotheses, and research methods of livestock production according to the field of science that is occupied. 2. Able to conduct a written study of the policy of the livestock production system in national development which aims to fulfill the adequacy of food originating from livestock. 3. Students are able to collect, process data and interpret the results logically and systematically written in scientific language</p>
3	PER 9200 1	Animal Reproduction and Breeding Studies (3 X 0 credits)	<p>Description This course discusses the concepts of Reproductive Science and Livestock Breeding including the implementation of Reproduction in livestock development and population, the role of Reproductive Technology for increasing livestock productivity, Overcoming reproductive disorders for increasing livestock populations, implementing breeding designs/programs in improving genetic quality and livestock performance, the role of breeding programs in the management of livestock genetic resources, genetic quality improvement strategies for several important traits in livestock and implementation of biotech in livestock breeding</p> <p>CLO 1. Mastering the basic concepts of the study of Animal Reproduction and Breeding 2. Able to apply strategies for utilizing reproductive technology and livestock</p>

		breeding for livestock development 3. Skilled in communicating concepts and studies in scientific writing in the field of livestock reproduction and breeding
4	PE M 9300 1	<p>Animal Feed Studies (3 X 0 credits)</p> <p>Description Discusses the philosophy of logic of animal feed science, government policies in the field of animal feed, theoretical/concept foundations, current issues in the field of animal feed, strategies, implementable animal feed technology and global livestock development</p> <p>CLO</p> <ol style="list-style-type: none"> 1. Students are able to understand and study animal feed science: variety of feed ingredients, technology to increase the nutritional value of animal feed. 2. Students are able to study, analyze and evaluate animal feed ingredients with various evaluation techniques 3. Students are able to interpret and apply the results of the evaluation of feed for utilization in rations 4. Students are able to analyze current issues in the field of animal feed, apply them in the community and are able to produce policies in the field of animal feed. 5. Students are able to study, evaluate and utilize secondary metabolites to increase livestock productivity 6. Students are able to study and apply integrated farming systems to increase forage productivity and increase livestock productivity. 7. Students are able to choose the method of planting and livestock systems according to regional conditions
5	PES 9400 1	<p>Animal Husbandry Socio-Economic Studies (3 X 0 credits)</p> <p>Description This course discusses the socio-economic concept of livestock and its development includes the implementation of industrial technology 4.0 which can assist in the decision-making process to optimize the production and performance of the livestock industry through the interaction between cost- effective and environmentally friendly practices so as to support the success of the livestock industry business.</p> <p>CLO</p> <ol style="list-style-type: none"> 1. Mastering the basic concepts of Livestock Socio-Economic Studies based on Industry 4.0 technology 2. Can implement strategies in optimizing the application of Industry 4.0 technology in the socio-economic field of livestock, and understand the mechanism of component interaction to improve Precision Livestock Farming (PLF). 3. Skilled in communicating scientific work related to the socio-economic study of livestock based on industry 4.0.
6	PET 9400 1	<p>Animal Products Technology Studies (3 X 0 credits)</p> <p>Description This course discusses the basic concepts of livestock product technology and its development includes the implementation of hurdle technology as the principle of preserving livestock products. The product development mechanism includes the basic concept of the occurrence of basic phenomena of interaction of livestock product components so that an optimal product is produced, both product and process. The interaction of bioactive components derived from food additives so as to support the functional success of the product.</p> <p>CLO</p> <ol style="list-style-type: none"> 1. Mastering the basic concepts of livestock product technology studies Processing and product design 2. Can apply strategies in optimizing processing processes, and understand the mechanism of component interaction to increase product added value.

		3. Skilled in communicating scientific work related to the study of livestock product technology
7	PEP 9100 2	Production of Non-Ruminant Livestock and Miscellaneous Strategy (2 X 0 credits)
		Description The subject of Strategy to Increase Production of Non-Ruminant Livestock and Various Livestock discusses the logic of science, government policies Theories/concepts, strategies to increase production of non-ruminant livestock and various livestock through improved management, implementation of biotechnology and breeding design to produce superior production. Discussion and emergence of ideas or innovations using basic knowledge of concepts, scientific theories are needed as a basis in formulating production improvement strategies as outlined in scientific writings and presented
		CLO 1. Able to formulate problems, formulate hypotheses, and research methods for non-ruminant livestock production and various livestock. 2. Able to conduct a written study of the policy of the non-ruminant livestock production system and various livestock in national development which aims to fulfill the adequacy of food originating from livestock. Students are able to collect, process data and interpret results logically and systematically written in scientific language
8	PEP 9100 3	Ruminant Production Strategy (2 X 0 credits)
		Description The Ruminant Livestock Production Improvement Strategy course discusses the logic of science, government policy theories/concepts, strategies for increasing ruminant livestock production through improved management, implementation of biotechnology and breeding design to produce superior production. Discussions and the emergence of ideas or innovations using basic knowledge of concepts, scientific theories are needed as a basis in formulating strategies for increasing production as outlined in scientific writings and presented.
		CLO 1. Develop hypotheses, and research methods for ruminant livestock production 2. Able to conduct a written study of the policy of the ruminant livestock production system in national development which aims to fulfill the adequacy of food originating from livestock 3. Students are able to collect, process data and interpret the results logically and systematically written in scientific language 4. Able to formulate problems
9	PER 9200 2	Animal Reproductive Biology (2 X 0 credits)
		Description This course discusses the basic concepts of reproductive processes including puberty, marriage, pregnancy, birth and postnatal cellular and molecular in livestock.
		CLO 1. Mastering the basic concepts of livestock reproductive biology studies. 2. Able to apply strategies in optimizing the livestock reproduction process 3. Skilled in communicating scientific work.
10	PER 9200 3	Animal Genetic Quality Improvement Strategy (2 X 0 credits)
		Description This course discusses the logic of quantitative and molecular genetics, strategies for improving the genetic quality of livestock through quantitative genetics models, genomics, crossbreeding programs and biotechnology. Discussions and the emergence of ideas or innovations using basic knowledge of concepts, scientific theories are needed as a basis for formulating genetic quality improvement strategies that support national development goals.
		CLO

		<ol style="list-style-type: none"> 1. Able to formulate problems and develop research hypotheses. 2. Able to formulate strategies for improving the genetic quality of livestock through quantitative genetic models, genomics, crossbreeding programs and biotechnology. 3. Students are able to collect, process data and interpret the results logically and systematically
11	PE M 9300 2	Non Ruminant Small Project (2 X 0 credits)
		Description This course is presented for students who carry out the Doctoral program by research in the form of short research with the aim of improving their ability to do the following things: [1] reviewing scientific articles according to the specified topic, [2] laboratory analysis that supports research his dissertation, [3] compiling the results of the review into a research proposal, and [4] analyzing data and compiling reports. This course will be carried out for 1 semester with the caregiver lecturers being prospective promoters and co-promoters
		CLO After taking this course, students are expected to: <ol style="list-style-type: none"> 1. Able to review research results that have been published in accredited media on issues related to the chosen topic 2. Able to carry out laboratory analysis, especially related to parameter measurement plans in dissertation research 3. Able to present and analyze data in accordance with scientific principles 4. Able to compile reports on research results
12	PE M 9300 3	Small Project Ruminants and Forages (2 X 0 credits)
		Description This course aims to provide a collaborative learning experience between professions in the field of non-ruminant livestock nutrition research. Students will be equipped with knowledge and skills through interactive lectures, small group discussions and small projects which will be supervised and guided by supervisors in terms of knowledge, science and philosophy and ethics in research, formulating problems, making hypotheses, making research designs in accordance with the methods used. selected, collect and process data from measurement results and prepare research proposals
		CLO <ol style="list-style-type: none"> 1. Able to mix research ideas with inter, multi, or transdisciplinary approaches into research designs in the form of TOR and research proposals and initiate a small project. 2. Able to develop research data collection methodology with independent, quality, and measurable performance 3. Able to learn about collaboration, team communication, professional roles and responsibilities, conflict management, and team management
13	PES 9400 2	Analysis and synthesis of Livestock Agribusiness development (2 X 0 credits)
		Description The Livestock Agribusiness Development course emphasizes progress and changes in rural and urban areas in developing countries, as well as their implications for the pattern of development of livestock agribusiness activities. The discussion of the lecture material includes various factors driving progress and change, how to define progress and change, as well as what kind of policy interventions can be done to realize the main goals of livestock agribusiness development to improve added value, competitiveness and eliminate poverty. The Court also examines the importance of the role of livestock agribusiness for economic development in developing countries. In addition, it also examines concepts, theories and strategies for developing livestock agribusiness. This includes the role of the business funding sector, facilities and infrastructure,

		business institutions, research and counseling, climate change adaptation and mitigation mechanisms for livestock agribusiness development efforts.
		<p>CLO</p> <p>1. Able to recognize and explain key concepts, ideas and debates in the development of livestock agribusiness, as well as describe the main opportunities and constraints related to the development of livestock agribusiness, which include aspects of added value, competitiveness and poverty reduction. Able to critically evaluate the contribution of various sectors of activity, types of policies, types of services, as well as the characteristics of actors in the livestock agribusiness development process. Able to understand the outlines and discussions of current debates related to the role of markets, the state, institutions, property rights, intellectual property rights, the livestock sector and the non-livestock economy</p> <p>2. Able to critically evaluate past and existing efforts, as well as the potential to improve added value, competitiveness and reduce poverty). Able to analyze alternative policy options in terms of their potential impact on efforts to improve added value, competitiveness and reduce poverty.</p>
14	PES 9400 3	Digital Based Livestock Agribusiness (IoT-Livestock Agribusiness = IoT-LA) (2 X 0 credits)
		<p>Description</p> <p>The Digital-Based Animal Science Agribusiness (IoT-Livestock Agribusiness = IoTLA) course is intended for students with an interest in teaching (lecturer) backgrounds, instructors, researchers, administrators of public and government service institutions, activists of international organizations, NGOs, and agribusiness-processors. livestock and agriculture. Therefore, students are offered increased scientific insight and cutting-edge skills regarding the relevance between agribusiness and livestock food-processors, communities, digital communication technology (IoT) management, rural development and social sciences.</p> <p>By paying attention to four main components, namely: (1) rural communities, (2) production and distribution of livestock commodity goods, (3) sustainability of social institutions and organizations, and (4) sustainability of rural ecosystems, this course aims to build and develop the perception of how livestock can contribute to rural development and poverty alleviation which focuses on the dynamic interaction between livelihoods in rural areas and livestock and agriculture which is understood as an integral part of the global livestock agribusiness system. Therefore, this IoTLA course also accommodates an interdisciplinary perspective on the relationship between global, regional, national and local level processes that shape livestock agribusiness, agriculture and rural development by integrating social science, economics and knowledge related to rural natural resources. The didactic method used eclectically is a combination of delivering theoretical knowledge with empirical insights and case study presentations</p>
		<p>CLO</p> <p>1. Students are able to develop a system of approaches, methods, instruments for scenario studies and animal husbandry agribusiness policies.</p> <p>2. Designing IoT (virtual coworking-space, application) for livestock agribusiness development and education.</p>
15	PET 9500 2	Animal Product Technology Development (2 X 0 credits)
		<p>Description</p> <p>This course discusses the basic concepts of livestock product technology development and its development includes the implementation of livestock product handling technology to maintain the freshness of livestock products. The product development mechanism includes the basic concept of the occurrence of the basic phenomena of factors that cause product damage so that</p>

		<p>a product that remains fresh is produced. Products and processes have records and adhere to the process, so they are able to track the stages that cause damage to fresh products. Understand the rules related to products, standardization and distribution and storage.</p> <p>CLO</p> <ol style="list-style-type: none"> 1. Can design the concept of traceability to the processing flow to the consumer 2. Able to implement and harmonize product safety supporting regulations 3. Having skills in designing documentation of quality assurance of livestock products
16	PET 9500 3	<p>Animal Products Bioprocess Technology (2 X 0 credits)</p> <p>Description</p> <p>Discussing the philosophy, logic of science about bioprocesses in the field of animal products technology including microbial technology and changes in the components of livestock products to produce livestock products that act as healthy and healthy functional products, preservation of microbes that are useful as probiotics.</p> <p>CLO</p> <ol style="list-style-type: none"> 1. Mastering the basic concepts of livestock product bioprocess technology studies. 2. Able to optimize the use of microbial technology and fermentation of processed livestock products. 3. Can develop analytical methods for bioprocess results

CHAPTER V

ACADEMIC PENALTY

Academic Penalties are imposed on students who violate academic provisions:

- a. Students who attend lectures less than 80% for no good reason accounted for, are not allowed to take the final semester exam for the subject in question, but given special assignment to reach the same learning outcome.
- b. Students who cancel a course outside the specified time, the course cannot be canceled and is still taken into account to determine the IP.
- c. Students who cheat in exams, are subject to sanctions which can be in the form of canceling their entire semester study plan or in the form of other sanctions.
- d. Students who take other student exams and or students who If the exam is done by someone else, it will be penalized for canceling the exam for all eyes course in the relevant semester.
- e. Students who make changes to the study plan card (SPC) illegally will be subject to sanctions cancellation of SPC for all courses in the semester concerned.
- f. Students who change grades illegally will be penalized suspension for a maximum of 2 (two) semesters and is not counted as a terminal.
- g. Students who commit these violations if accompanied by: threats of violence or the giving of things, or promises or deceptions of subject to sanctions being expelled from FAS UB.
- h. Students who are found to have cheated in the making of the Thesis/Dissertation shall be subject to sanctions in accordance with applicable laws and regulations.