

# ACADEMIC GUIDEBOOK

# STUDY PROGRAM OF MASTER OF ANIMAL SCIENCE

**ENGLISH VERSION 2021** 

# PREAMBLE

#### Assalamu'alaikum Warrohmatullahi Wabarakatuh

Faculty of Animal Science Universitas Gadjah Mada has formulated its 2017-2022 vision and mission to become the reference, best ASEAN's higher education and research institution in animal science.

Faculty of Animal Science realizes that collaboration, work hard ethic, work smart spirit, and focus on directing internal resources employing external resources are essential to actualize its vision and mission. Study Program of Master in Animal Science is one of Faculty of Animal Science's priorities that has been always motivated and supported in playing its roles. Thus, academic activity and research can be implemented in the advance direction to produce high-qualified graduates who are ready to compete in ASEAN.

Various measures have been taken by Faculty Management to develop Study Program of Master in Animal Science. These include administration improvement, providing adequate facilities, student service improvement, and collaboration with other institution/industry to conduct more inclusive research. Furthermore, the student advising and monitoring process also have been subjected to improvement and evaluation in order to acquire on time and shorter length of study completion.

The publication of this academic guidebook is also intended to facilitate students in accessing information regarding academic rules, administrative procedures, curriculum, courses' syllabus, and profile of faculty members.

We hope that this academic guidebook is useful, especially for both admitted and future students.

Wassalamu'alaikum Warrohmatullahi Wabarakatuh

Yogyakarta, January 2021 Dean Faculty of Animal Science UGM

Prof. Dr. Ir. Ali Agus, DAA., DEA., IPU., ASEAN Eng.

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# **INTRODUCTION**

# 1. Address

| Address   | : | JI. | Fauna      | 3,    | Kampus          | UGM, | Bulaksumur, |
|-----------|---|-----|------------|-------|-----------------|------|-------------|
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| Website   | : | htt | p://pasca  | .fape | et.ugm.ac.i     | d    |             |

# 2. Background

The Study Program of Master in Animal Science was opened for the first time on 1 September 1980, with 2 earlier majors, i.e. Animal Production and Animal Nutrition. In the academic year of 1981/1982, it added 1 major, i.e. Animal Breeding and Reproduction. In 1984, there were 3 main specializations offered by the Study Program of Master in Animal Science, i.e. Animal Production, Animal Nutrition, and Animal Breeding and Reproduction.

Referring to the Decree of Ministry of Education and Culture No . 0331/0/1991, the Faculty of Postgraduate was changed into Postgraduate Program. Since then, the Study Program of Master in Animal Science was under auspices of Graduate Program of Universitas Gadjah Mada. In 2002, the Study Program of Master in Animal Science started offering 4 main specializations, i.e. Animal Nutrition, Animal Production, Livestock Socio-Economics, and Animal Products Technology.

In 2006, by the issuance of Decree of Rector UGM No. 89/P/SK/HT/2006 on the Implementation of Monodiscipline Master Program under Auspices of Faculty, the Study Program of Master in Animal Science started being organized by Faculty of Animal Science UGM.

Study Program of Master in Animal Science is now offering 5 specializations, i.e. Animal Nutrition, Animal Production System, Regulation and Business in Livestock Industry, Animal Products Technology, and Animal Reproduction and Breeding in Tropic.

# 3. Vision

The vision of Study Program of Master in Animal Science is to create a livestock education that is competitive, cultured, high-quality, and internationally standardized based on research, by prioritizing the importance of nation and humankind.

# 4. Mission

Mission of Study Program of Master in Animal Science are:

- a. Organize a high-quality livestock education in order to educate and build the nation.
- b. Produce tough, moral excellence, and independent graduates who have the capability to compete in international level.
- c. Conduct the research to develop science and technology and apply them to society welfare.
- d. Build mutual relationship with national and international institutions.

# 5. Program Education Objectives

The Program Education Objectives (PEO) of Study Program of Master in Animal Science is producing graduates who:

- 1. Pancasila (Indonesia's Five Principles)-motivated, uphold norms, morale, religions, ethics, and professional responsibility in the field of animal science.
- 2. Able to develop science, technology, and or arts in the field of animal science continuously through research, thus producing innovative and verified works.
- 3. Able to solve scientific, technological, and or arts problems in the field of animal science through inter- and multidisciplinary approaches.
- 4. Be able to perform research in animal science and develop it for society and science, and also able to attain both national and international recognition.

# 6. Expected Learning Outcomes

The Expected Learning Outcomes (ELO) of Study Program of Master in Animal Science are as follow:

#### A. Attitudes

The graduates are able to behave well, correctly, and culturally as the result of internalization and actualization of values and norms, which is reflected in a spiritual and social life through learning process, experience, research, and/or community development in the animal husbandry.

- 1. Piety to God and be able to show religious attitude and maintain the humanity values in carrying the task, which is based on religion, moral, and ethics.
- 2. Be proud and love the homeland, show nationalism, and contribute to the improvement of the life quality in the community, nation and country, and the advancement of civilization according to Pancasila.
- 3. Showing the social sensitivity and attention to the community and environment by respecting the culture diversity, view, religions, beliefs, and other people's opinion, and also obey the rules.
- 4. Be accountable in carrying the professional practice that includes ability to accept accountability towards decision and professional action. It shall be according to the scope of the practice under their responsibility and laws.

#### B. Mastery in Science

Master the theory of the current science in the animal husbandry and its application.

- 1. Able to master the current animal science and its application theory.
- 2. Able to master the livestock production science, animal nutrition and feed science, animal products technology, and the livestock social economics in relation to food security and environment.
- 3. Able to master the design, management, and development of livestock research.

#### C. Special Skills

The graduates are able to develop science, technology, and arts in the animal husbandry through interdisciplinary/multidisciplinary innovative and tested research.

- 1. Able to make innovation in the animal husbandry based on the development of science, technology and arts.
- 2. Able to design interdisciplinary and multidisciplinary research in the animal husbandry.
- 3. Able to formulate and solve problems in the national development especially in terms of animal husbandry.
- 4. Able to solve problems and anticipate issues in the development of animal science and industry.

#### D. General Skills

The graduates are able to manage resources by utilizing the science, technology, and arts to solve problems in the animal husbandry with current science and also conduct research with accountability and full responsibility.

- 1. Able to develop logical, critical, systematic, and creative thought through scientific research, creation of design in the science and technology, which pays attention and applies humanity values according to their expertise. The graduates are able to arrange the scientific concept and the study result based on the principles, procedures, and scientific ethics.
- 2. Able to identify the science that becomes their research object and position it to a research map by using information technology in the context of science development and expertise implementation developed through interdisciplinary or multidisciplinary approaches.
- 3. Able to make a decision in the context of solving problems in the development of science and technology, which pays attention and applies humanity values based on analysis study or experiment towards information and data.
- 4. Able to communicate the result of reasoning and scientific research in form of thesis and scientific writing responsibly based on academic ethics in the accredited national journals.
- 5. Able to maintain the academic integrity generally and avoid the plagiarism practice.
- 6. Able to communicate spoken and written English effectively by using the information technology for the development of animal science and its implementation.

# 7. Organizational Structure

# Faculty Management Period 2017 - 2021



Prof. Dr. Ir. Ali Agus, DAA., DEA., IPU., ASEAN Eng

Dean



Prof. Ir. Budi Guntoro, S.Pt., M.Sc., Ph.D., IPU., ASEAN Eng.

Vice Dean for Academic and Student Affairs

Ir. Bambang Suwignyo, S.Pt., M.Sc., Ph.D., IPM., ASEAN Eng.

Vice Dean for Research, Community Services,

and Cooperation



Prof. Ir. I Gede Suparta Budisatria, M.Sc., Ph.D. IPU., ASEAN Eng.

Vice Dean for Finance, Assets, and Development

# Study Program Management 2021 - 2026



Ir. Nafiatul Umami, S.Pt., M.P., Ph.D., IPM., ASEAN Eng.

Head of Study Program

# **STUDENT ADMISSION**

# 1. Application Requirement

Applicants must meet requirements as follow:

- a. Hold undergraduate degree (S1) or equivalent from accredited study program in the relevant field of study with the intended Master Program.
- b. Provide original transcript or its legalized copy.
- c. Have good academic achievement, demonstrated with GPA as follow:
  - 1)  $\geq$  2.50 for Study Program with A accreditation;
  - 2)  $\geq$  2.75 for Study Program with B accreditation;
  - 3)  $\geq$  3.00 for Study Program with C accreditation.
- d. A valid certificate of Academic Potency Test (Tes Potensi Akademik) with minimal score of 450, proved with valid certificate (taken within 2 years prior application). These following Academic Potency Test are accepted for new student application:
  - 1) PAPs UGM;
  - 2) TPDA PLTI;
  - 3) Tes Potensi Akademik (TPA) BAPPENAS.
- e. A valid certificate of English Proficiency Test, taken within 2 years prior application. These following English Proficincty tests are accepted for new student application:
  - 1) Academic English Proficiency Test (AcEPT), organized by UGM with 149 of minimal score, or;
  - 2) International English Testing System (IELTS), organized by IDP-recognized institution with 4.0 of minimal score, or;
  - 3) Internet-Based (iBT) TOEFL, organized by IIEF-recognized institution with 30 of minimal score, or;
  - 4) Institutional Testing Program (ITP) TOEFL, organized by IIEF-recognized institutions with 400 of minimal score, or;
  - Test of English Proficiency (TOEP), organized by DIKTI-recognized Pusat Layanan Tes Indonesia (PLTI) for lecturer certification with score ≥ 27.
- f. Attain 2 recommendation letters from 2 different recommenders who know applicant well. Recommendation letter can be from applicant's previous lecturer/work supervisor. Recommendation is an provisional document and submitted online by recommender after receiving personal email regarding the link that direct to the system.
- g. Health certificate from Government/Private Hospital/Clinic.
- h. Applicant's projection/motivation letter that covers purpose of study, future research topic, and future plans after completing the study.
- i. Letter of Study Permit from applicant's institution for those who are currently employed.

# 2. Application Procedure

Applicant submits their registration through online system on <u>http://um.uqm.ac.id</u>.





# CURRICULUM

Study Program of Master in Animal Science UGM is implemented according to Decree of Rector No. 11 Year 2016, with credit system measured in *Satuan Kredit Semester* (SKS, Credit Semester Unit). The minimum study load is 40 credits, consisting of lectures, research, and thesis. Students have to take 14 credits of compulsory courses, 6 credits of specialization's compulsory courses, 8 credits of specialization's elective courses, and 12 credits of research and thesis writing.

# 1. Specializations and Supporting Departments

Study Program of Master in Animal Science offers 5 specializations, i.e. 1) Animal Nutrition and Feed Science, 2) Animal Production System, 3) Regulation and Business in

Livestock Industry, 4) Animal Products Technology, 5) Tropical Animal Reproduction and Breeding. Those specializations are supported by Departments with laboratories in it.

1. Animal Nutrition and Feed Science Specialization

Animal Nutrition specialization is supported by Department of Animal Nutrition and Feed Science whose 4 laboratories:

- a) Laboratory of Nutritional Biochemistry.
- b) Laboratory of Forage and Pasture.
- c) Laboratory of Animal Nutrition.
- d) Laboratory of Feed Technology.

#### 2. Animal Production System Specialization

Animal Production System specialization is supported by Department of Animal Production whose 3 laboratories:

- a) Laboratory of Dairy Science and Milk Industry.
- b) Laboratory of Meat, Draught, and Companion Animals.
- c) Laboratory of Poultry Science.

#### 3. Policy and Livestock Business Specialization.

Policy and Livestock Business specialization is supported by Department of Livestock Socio-Economics whose 2 laboratories:

- a) Laboratory of Livestock Agribusiness.
- b) Laboratory of Communication and Community Development.

#### 4. Animal Products Technology Specialization.

Animal Products Technology specialization is supported by Department of Animal Products Technology whose 3 laboratories:

- a) Laboratory of Meat Science and Technology.
- b) Laboratory of Milk and Egg Technology.
- c) Laboratory of Leather, Waste, and By-Products Technology.



## 5. Tropical Animal Reproduction and Breeding Specialization.

Tropical Animal Reproduction and Breeding specialization is supported by Department of Animal Reproduction and Breeding whose 2 laboratories:

- a) Laboratory of Animal Physiology and Reproduction.
- b) Laboratory of Animal Breeding and Genetics.

# 2. Courses

Courses offered by Study Program of Master in Animal Science consist of study program's compulsory courses and specialization's courses. The specialization's courses consist of specialization's compulsory and specialization's elective courses.

| Semester | Code     | Course                                   | Credit |
|----------|----------|--|--------|
| Odd/Even | PTU 6001 | Philosophy of Science                    | 2/0    |
| Odd/Even | PTU 6002 | Experiment Design                        | 2/0    |
| Odd/Even | PTU 6003 | Animal Production System                 | 2/0    |
| Odd/Even | PTU 6004 | Advanced Animal Products Processing      | 2/0    |
| Odd/Even | PTU 6005 | Tropical Animal Feed                     | 2/0    |
| Odd/Even | PTU 6006 | Livestock Agribusiness Planning Strategy | 2/0    |
| Odd/Even | PTU 6007 | Development of Animal Genetic Resources  | 2/0    |
| Odd/Even | PTU 7099 | Thesis                                   | 12/0   |

#### Study Program's Compulsory Courses

#### Specialization's Courses

## **1.** Animal Nutrition Specialization

| Semester | Code     | Course  | Compulsory/<br>Elective        | Credit |
|----------|----------|---|--------------------------------|--------|
| Odd      | PTN 6101 | Comparative Nutrition                                       | Specialization's<br>Compulsory | 1/1    |
| Odd      | PTN 6102 | Forage Manipulation and Feed<br>Technology                  | Specialization's<br>Compulsory | 2/0    |
| Even     | PTN 6103 | Research Techniques in Animal<br>Nutrition and Feed Science | Specialization's<br>Compulsory | 2/0    |
| Odd      | PTN 6104 | Nutritional Biochemistry and Physiology                     | Specialization's<br>Elective   | 2/0    |
| Odd      | PTN 6105 | Biodynamic in Grazed Animal Feed                            | Specialization's<br>Elective   | 2/0    |
| Odd      | PTN 6106 | Feed Quality Control  | Specialization's<br>Elective   | 1/1    |
| Odd      | PTN 6107 | Animal Microbiology   | Specialization's<br>Elective   | 1/1    |
| Odd      | PTN 6108 | Ruminant Nutrition  | Specialization's<br>Elective   | 1/1    |
| Even     | PTN 6109 | Instrumentation in Animal Nutrition<br>and Feed Science     | Specialization's<br>Elective   | 2/0    |
| Even     | PTN 6110 | Forage and Pasture Production                               | Specialization's<br>Elective   | 1/1    |

| Even | PTN 6111 | Feed Fabrication                   | Specialization's<br>Elective | 1/1 |
|------|----------|------------------------------------|------------------------------|-----|
| Even | PTN 6112 | Poultry and Non Ruminant Nutrition | Specialization's<br>Elective | 2/0 |
| Even | PTN 6113 | Fermentation and Enzyme Technology | Specialization's<br>Elective | 1/1 |

# 2. Animal Production System Specialization

| Semester | Code     | Course   | Compulsory/<br>Elective        | Credit |
|----------|----------|--|--------------------------------|--------|
| Odd      | PTD 6201 | Dairy Production System  | Specialization's<br>Compulsory | 2/0    |
| Odd      | PTD 6202 | Meat, Draught, and Companion Animal<br>Production System       | Specialization's<br>Compulsory | 2/0    |
| Even     | PTD 6203 | Poultry Production System                                      | Specialization's<br>Compulsory | 2/0    |
| Odd      | PTD 6204 | Lactation Biology of Tropical Dairy<br>Animals                 | Specialization's<br>Elective   | 3/0    |
| Odd      | PTD 6205 | Industrial Techniques of Meat, Sport,<br>and Companion Animals | Specialization's<br>Elective   | 3/0    |
| Odd      | PTD 6206 | Tropical Poultry Industry                                      | Specialization's<br>Elective   | 3/0    |
| Even     | PTD 6207 | Dairy and Milk Industry  | Specialization's<br>Elective   | 2/1    |
| Even     | PTD 6208 | Production Biology of Meat, Draught, and Companion Animals     | Specialization's<br>Elective   | 3/0    |
| Even     | PTD 6209 | Research Techniques in Animal<br>Production                    | Specialization's<br>Elective   | 2/0    |
| Even     | PTD 6210 | Poultry Behavior and Welfare                                   | Specialization's<br>Elective   | 3/0    |

# 3. Policy and Livestock Business Specialization

| Semester | Code     | Course   | Compulsory/<br>Elective        | Credit |
|----------|----------|--|--------------------------------|--------|
| Odd      | PTE 6301 | Statistic in Social and Business                       | Specialization's<br>Compulsory | 2/0    |
| Odd      | PTE 6302 | Experimental Design in Livestock Socio<br>and Business | Specialization's<br>Compulsory | 2/0    |
| Even     | PTE 6307 | Livestock Agribusiness Policy                          | Specialization's<br>Compulsory | 2/0    |
| Odd      | PTE 6304 | Managerial Economics                                   | Specialization's<br>Elective   | 2/0    |
| Odd      | PTE 6305 | Extension Science and Education                        | Specialization's<br>Elective   | 2/0    |
| Odd      | PTE 6306 | Project Management                                     | Specialization's<br>Elective   | 3/0    |

| Even | PTE 6303 | Marketing Management             | Specialization's<br>Elective | 2/1 |
|------|----------|----------------------------------|------------------------------|-----|
| Even | PTE 6308 | Livestock Business Communication | Specialization's<br>Elective | 2/0 |
| Even | PTE 6309 | Human Resource Management        | Specialization's<br>Elective | 2/0 |
| Even | PTE 6310 | Rural Economic Development       | Specialization's<br>Elective | 2/0 |

# 4. Animal Products Technology Specialization

| Semester | Code     | Course   | Compulsory/<br>Elective        | Credit |
|----------|----------|--|--------------------------------|--------|
| Odd      | PTH 6401 | Animal Products Bioprocess                           | Specialization's<br>Compulsory | 3/0    |
| Even     | PTH 6402 | Animal Products Quality Control                      | Specialization's<br>Compulsory | 3/0    |
| Odd      | PTH 6403 | Muscle Biology                                       | Specialization's<br>Elective   | 2/0    |
| Odd      | PTH 6404 | Leather Science and Industry                         | Specialization's<br>Elective   | 2/0    |
| Odd      | PTH 6405 | Advanced Milk Science and Technology                 | Specialization's<br>Elective   | 2/0    |
| Odd      | PTH 6406 | Packaging and Display of Animal<br>Products          | Specialization's<br>Elective   | 2/0    |
| Odd      | PTH 6407 | Functional Food of Animal Products                   | Specialization's<br>Elective   | 2/0    |
| Even     | PTH 6408 | Advanced Egg Science and Technology                  | Specialization's<br>Elective   | 2/0    |
| Even     | PTH 6409 | Meat Processing and Industry                         | Specialization's<br>Elective   | 2/0    |
| Even     | PTH 6410 | Research Techniques in Animal<br>Products Technology | Specialization's<br>Elective   | 2/0    |
| Even     | PTH 6411 | Animal Waste Technology                              | Specialization's<br>Elective   | 2/0    |

# 5. Tropical Animal Reproduction and Breeding Specialization

| Semester | Code     | Course   | Compulsory/<br>Elective        | Credit |
|----------|----------|--|--------------------------------|--------|
| Odd      | PTR 6501 | Improvement of Animal Reproduction<br>Efficiency | Specialization's<br>Compulsory | 2/1    |
| Even     | PTR 6502 | Improvement of Animal Genetic Quality            | Specialization's<br>Compulsory | 3/0    |
| Odd      | PTR 6503 | Environmental Physiology of Tropical<br>Animals  | Specialization's<br>Elective   | 2/0    |
| Odd      | PTR 6504 | Advanced Animal Breeding                         | Specialization's<br>Elective   | 3/0    |

| Odd  | PTR 6505 | Advanced Animal Evaluation and Judgment | Specialization's<br>Elective | 3/0 |
|------|----------|---|------------------------------|-----|
| Even | PTR 6506 | Advanced Animal Endocrinology           | Specialization's<br>Elective | 2/0 |
| Even | PTR 6507 | Animal Reproduction and Physiology      | Specialization's<br>Elective | 2/1 |
| Even | PTR 6508 | Cytogenetics                            | Specialization's<br>Elective | 2/0 |

# 3. Courses Code

Codification of courses is prescribed as follows: the first 3 letters is specialization's code, while the 4 numbers following the letters stand for each different course.

The letter codes for 5 specializations are:

PTN = Animal Nutrition and Feed Science Specialization

PTD = Animal Production System Specialization

PTE = Policy and Livestock Business Specialization

PTH = Animal Products Technology Specialization

PTR = Animal Reproduction and Breeding in Tropic Specialization

4 numbers following the first 3 letters are:

| First number             | = course in master's level (6 or 7)         |
|--------------------------|---|
| Second number            | = specialization's code                     |
| Third and Fourth numbers | = the course's code (01, 02, and so forth). |

| Animal Nutrition and Feed Science Specialization (PTN)          | = 61 |
|---|------|
| Animal Production System Specialization (PTD)                   | = 62 |
| Policy and Livestock Business Specialization (PTE)              | = 63 |
| Animal Products Technology Specialization (PTH)                 | = 64 |
| Animal Reproduction and Breeding in Tropic Specialization (PTR) | = 65 |

# 4. Courses with PTU Code

Courses with PTU code are compulsory courses for students of Master in Animal Science. PTU-coded courses are not included as a part of a laboratory, thus indicated in U letter. The development and management of PTU-coded courses are deliberately assigned to team appointed by the Head of Study Program. The team is in charge of 3 years at maximum.

# 5. Practicum

Practicum is implemented by laboratory and coordinated by lecturer of the course.





# **ACADEMIC ACTIVITY IMPLEMENTATION**

# 1. Lecturer

Referring to *Undang-Undang* (Law) Republic of Indonesia No. 14 Year 2005, the lecturers who teach in the Study Program of Master in Animal Science have to hold doctoral degree. The appointment of a lecturer of a course is based on the Head of Laboratory's or the of Study Program's nomination by considering lecturer's competency and teaching duty.

# 2. Academic Supervisor

Academic supervisor has important roles in motivating, directing, and advising students during their study period. Academic supervisor is appointed by the Head of Study Program. Academic Supervisors provide academic consultation for their students good and advices for them in planning their study.

## 3. Thesis Supervisor

Thesis Supervisor is a lecturer appointed by Dean and has responsibility to guide students in writing research proposal, conducting research, and writing thesis. There are 2 Thesis Supervisors, i.e. Main Thesis Supervisor and Second Thesis Supervisor. The appointment of Main and Second Thesis Supervisors is based on lecturers' competency and their student quota. Main Thesis Supervisor must have held doctoral degree and a functional job as lector. Meanwhile, Second Thesis Supervisor must have held doctoral degree. The nomination of Thesis Supervisor follows the mechanism below:

- 1. The Head of Study Program arranges a meeting for students that provide them information regarding laboratory, human resources, and research that had or currently being conducted. The meeting is organized at least one week before the class started.
- 2. Students submit a request for both Main and Second Thesis Supervisor regarding the specialization they are interested in to the Head of Study Program. The request must have been submitted by the end of first semester. The second Thesis Supervisor could be from other specialization or other study program either in UGM or other who have met all requirements.
- 3. After acquiring approval in the Management Meeting, the Head of Study Program submit the request to the Dean. The Dean will then issue a decree of appointment.
- 4. A lecturer could be either Main or Second Thesis Supervisor at most for 6 students.

# 4. Thesis Examiner

Thesis examiner consists of Thesis Supervisor, other lectures and or other examiner who is not lecturer that has been appointed by Study Program. The appointment of thesis examiner follows the mechanism below:

- 1. After obtaining approval from their supervisor, students submit the request form of thesis examiner according to their thesis substance. The request must have been submitted by the end of first semester.
- 2. After obtaining approval from the Head of Study Program, the request will be forwarded to the Dean who will then issue a decree of appointment.

# 5. The Replacement of Thesis

## **Supervisor**

Either Main or Second Thesis Supervisor can be changed if they do not actively give supervise/guide their student due to overseas trip or other type reasons that has been approved by the Head of Study Program. The related lecturer files a letter of resign as thesis supervisor. The Head of Study Program will then appoint other lecturer as replacement.



# 6. Study Plan

Students have to take courses as much as the study load that has been prescribed by Study Program.

- 1. Courses are mainly categorized into compulsory and elective courses.
- 2. Elective courses are offered by each specialization in the Study Program of Master in Animal Science or other relevant studies outside Faculty of Animal Science. Students who would like to take courses offered by other study program have to acquire approvals from their supervisors and the Head of Study Program.
- 3. Collateral courses are undergraduate courses students might have to take that have been recommended by their supervisors. Students who take collateral courses have to follow the rules applied in the courses and have to acquire approval of the Head of Study Program.

# 7. Study Plan Card

The Study Plan Card covers courses taken by students in each semester. It has to get approved by student's supervisor and the Head of Study Program.

# 8. Addition and Cancellation of Courses

The alteration of Study Plan (addition and cancellation of courses) can be carried out within 2 weeks after the courses have been started. Students have to get approval from their supervisors.

# 9. Courses Transfer

Courses transfer is mechanism that allows to student to transfer grade they have obtained from other study program or university, including from foreign university. The conversion will be performed by a team that appointed by the Head of Study Program.

# **10.** Lecture Activity

The lecture activity is held for 16 weeks, following the prescribed university's academic calendar. Lecture activity also includes practicum, midterm examination, and final examination. Students' attendance in the lecture activity will be recorded. Students can take the examination of a course if they meet 75% of minimum attendance in that course.

# 11. Languages of Instruction

The languages of instruction used in the Study Program of Master in Animal Science are Bahasa Indonesia and English. Foreign students who do not speech Bahasa Indonesia yet are urged to take Bahasa Indonesia course for at least 1 semester at *Pusat Pelatihan Bahasa* (the Language Learning Center) UGM.

# **12.** Sit in

Sit In system allows student to take a course without getting grade in that course. Student who will take sit in course have to follow the mechanism below:

- 1. Acquire recommendation from supervisor.
- 2. Permitted by the lecturer who teaches the course.
- 3. Actively participate in lecture, practicum, and examination.
- 4. Meet all requirements prescribed by the Head of Study Program.
- 5. Sit in from other study programs are regulated by those study programs.

# **13.** Semester Examination

Semester examination is a type of examination held to evaluate students' competency in courses they had taken. The semester examination follows the mechanism as below:

- 1. Midterm examination is held at the 8<sup>th</sup> week in each semester.
- 2. Final examination is held 1 week after the last class.

# **14. Retaking Courses**

Students can retake courses they had taken in the previous semester in order to improve their grades in those courses. The mechanism is written below:

- 1. Fill the Study Plan Card.
- 2. Attend class and practicum.

# 15. Grades

Grade is delivered in the letter of A, A-, A/B, B+, B, B-, B/C, C+, C, C-, C/D, D+, D, or E. Student who has not completed all requirement to get a grade will marked TL (*Tidak Lengkap*, incomplete). If within 1 month, student fails completing the requirement, the mark will be automatically converted into E.

# 16. Grade Announcement

The grade will be announced within 2 weeks after the examination. Lecturer has to has sent the grade to the Head of Study Program within 1 week after the examination.

Students can confirm to get a clear explanation regarding their grade by following this mechanism:

- 1. Students can clarify their grades within 2 weeks after the grade is announced.
- 2. Students ask personally to the lecturer to get information regarding all grading components.
- 3. If there is a grading revision, lecturer files a revision letter to Head of Study Program.

# **17.** Report of Study Progress

The report of study progress is made by students and their supervisors in the end of semester.

# **18. Fieldwork Lecture**

Fieldwork lecture is an extracurricular activity organized based on the proposal from *Himpunan Mahasiswa Pascasarjana Peternakan* (HMP, Graduate Students Association). The Head of Study Program will appoint lecturer to supervise the activity.

# **19. Comprehensive Examination**

#### **Requirements**

Students have to take comprehensive examination prior thesis defense. The comprehensive examination evaluates student competency. The comprehensive examination follows the mechanism below:

- 1. File a request to the Head of Study Program.
- 2. Have completed all prescribed courses.
- 3. Have completed research proposal seminar.
- 4. The comprehensive examination lasts for 120 minutes.
- 5. Hold 400 of TOEFL score or equivalent of ACEPT score, and 450 of PAPs/TPA.

#### **Examiner of Comprehensive Examination**

The comprehensive examination will be examined by Main and Second Thesis Supervisor, and 2 other lectures.

#### **Examination Result**

Students will be marked "pass" or "retake". Students who get "retake" mark can file a request to retake the examination in 2 weeks to 3 months after the first examination. Student who fails the comprehensive examination for 3 times has to take courses recommended by examiners.

## 20. Thesis

Thesis is one of compulsory courses weighed for 12 credits, consists of:

- 1. Thesis proposal, includes the writing process and thesis proposal seminar (2 credits)
- 2. Research and thesis writing (5 credits)
- 3. Research result seminar (2 credits)
- 4. Thesis defense (2 credits)
- 5. One publication that has been sent to the editor minimum to the accredited national journal or agreed by the editor to be published on the proceeding seminar with the Scopus index (1 credit).

#### **Thesis Proposal**

Thesis proposal includes its writing process and seminar weighed for 2 credits. Seminar will enable students to prepare and present their proposal/research result to acquire suggestion and other knowledge/information from audience. Students will also learn how to communicate in scientific environment. The seminar is regulated in the seminar guideline.

#### **Research and Thesis Writing**

Research and thesis writing are weighed for 5 credits. Students can perform their research after completing their research proposal seminar.

#### **Requirement of Thesis Defense**

- 1. Have passed comprehensive examination.
- 2. Have completed the research result seminar.
- 3. Have submitted thesis and publication that have been approved by supervisor and examiner team that has been appointed by the Head of Study Program.
- 4. File a request for thesis defense, attached by thesis and publication as much as 4 copies that has been approved by supervisors.

#### **Scientific Publication**

Students gave to publish at least one article regarding their thesis research that has been accepted by editor in scientific journal or proceeding seminar without violating writing ethics.

#### **Thesis Examination**

Thesis defense is scheduled 1 week as the quickest after students submitted their request for thesis defense. The thesis defense is weighed for 5 credits. The thesis defense will last for maximum 120 minutes.

#### **Thesis Examination Assessment**

The components used in thesis examination consist of research proposal and seminar, research, research result seminar, publication, and thesis examination. Thesis examination is assessed in number mark that will then be averaged and converted into grades as follow:

| ≥80,0     | = | Α   | 45 — 49,9 | = | C+  |
|-----------|---|-----|-----------|---|-----|
| 75 – 79,9 | = | A   | 40 –44,9  | = | С   |
| 70 –74,9  | = | A/B | 35 — 39,9 | = | C-  |
| 65 – 69,9 | = | B+  | 30 –34,9  | = | C/D |
| 60 - 64,9 | = | В   | 25 – 29,9 | = | D+  |
| 55 – 59,9 | = | B-  | 20 –24,9  | = | D   |
| 50 –54,9  | = | B/C | 0– 19,9   | = | Е   |

#### **Retaking Thesis Defense**

- 1. Student who get C or less in the thesis defense are allowed to retake the thesis defense within 2 weeks to 3 months after the first thesis defense.
- 2. The maximum grade for second thesis examination is B.

#### **Thesis Revision**

If students who have taken thesis defense fail to finish their thesis within 3 months after the thesis defense, they have to retake the thesis defense.

#### Referendum

Referendum is process in which the Head of Study Program will decide whether they graduate form the Study Program of Master in Animal Science or not. Referendum is organized after the student has passed the thesis defense.

#### **Judicial Meeting**

Judicial Meeting is process in which the Head of Study Program will decide whether they graduate based on academic and administrative requirements, that held once in a month. Yudisium is organized after the referendum. Yudisium is attended by Dean, Vice Dean for Academic and Student Affairs. Head of Study Program, Secretary of Study Program, and Supervisor.

#### **21.** Evaluation

Monitoring and evaluation is held in 2 stages, i.e.: First and Second Evaluation.

- 1. The first evaluation follows this following mechanism:
  - a. Student who has not acquired 15 credits by second semester and 3.00 minimum GPA will not be allowed to take thesis until a certain period of time.

- b. If within 1 semester student cannot accomplish the aforementioned requirement, student will not be allowed to continue his study/drop out.
- 2. The second evaluation follows this following mechanism:
  - a. Student who is not able to complete his study by the end of third semester with 3.00 minimum GPA will be issued the first notice letter.
  - b. Student who is not able to complete his study by the end of fourth semester with 3.00 minimum GPA will be issued the second notice letter.
  - c. Student who is not able to complete his study by the end of fifth semester with 3.00 minimum GPA will be issued the third notice letter and will be granted one semester of extension to complete his study.
  - d. If the student is not able to complete his study like the condition mentioned in no. 3, he will not be allowed to continue his study/drop out.



# 22. Length of Study

Length of study is a certain period required by students to complete their study. The length of study period in the Study Program of Master in Animal Science.

- 1. The length of study in the Study Program of Master in Animal Science is 2 6 semesters.
- 2. The length of study is started since the student enrolment until *yudisium*.

# 23. Academic Leave of Absence

Students can file a request for leave of absence by following these mechanisms below:

- 1. Academic leave of absence will not be included in student's length of study. Student can take academic leave of absence for 2 semesters at maximum.
- 2. The academic leave of absence only applies for student who has passed the First Evaluation.
- 3. Scholarship recipients who will take academic leave of absence have to follow the regulation applied by their scholarship.

# 24. Prohibition and Academic Sanction

Students who commit these following acts will be stated have violated the academic honesty:

1. Cheating on examination.

- 2. Performing exam or other academic activities under other's name. Asking someone to perform exam or other academic activities for them.
- 3. Commit any type of acts that violate academic interest of other.
- 4. Plagiarism.

Students who commit one or more of the aforementioned acts will be sanctioned according to the prescribed regulation. Sanctions can be varied from a notice of warning, not allowed to engage in academic activity for one semester, and drop out from the Study Program of Master in Animal Science.

# 25. Graduation Ceremony

Graduation ceremony is organized for student who have been announced graduated based on Yudisium result and have meet all administrative requirements prescribed by Study Program and University.





#### 1. Study Program's Compulsory Courses

#### > Philosophy of Science

Philosophy of Science course is designed to give students knowledge and tool to think philosophically in the field of animal science. It covers the science of philosophy and its classifications, philosophy of science according to its scope and place, the development of philosophy of science, important previous discoveries, conceptualization and methodology of scientific theory. At the end of lecture, students will be equipped with tool to implement knowledge acquired from the course in designing thesis.

The holistic approach in discussing course content, discussion, and practical activity is intended to enable students in comprehending the subject. The learning activity is implemented through student-centered activity (i.e. discussion, study case, and practical activity). Students are assessed and evaluated through structural group assignment, individual assignment, class participation, and written examination.

#### Experiment Design

The compulsory course is designed to prepare students with knowledge, comprehension, and application of various experiment designs that will be used in their thesis projects. It covers the variety of experiments, steps of research process, and types of experiment design (i.e. study case, comparative design, quantitative design, qualitative design, and mixed research design). The learning process demand students' active participation in discussion, study case, and practical activity. Evaluation toward students' comprehension in this course is done through structural assignments, students' participation, and written examination.

#### > Animal Production System

The course is focused on comprehension regarding the complexity system of animal production to achieve sustainability from farm level to regional level. Students will learn about the development of animal production system with emphasizing on animal's double purpose, economic viability, social acceptability, animal welfare, and environmental aspects.

#### Advanced Tropical Animal Products Processing

The course covers advanced animal products processing, food safety, food security, food microbiology and biochemistry, packaging, halal system, products display, and marketing.

#### Tropical Animal Feed

Tropical Animal Feed course covers system and related topics in animal feed in tropics, i.e.: types of animal feed, procurement management, feed processing technology, feed quality improvement, biochemical and nutrient value of feed, feed safety and security, marketing supply chain, and feed economic value.

#### Livestock Agribusiness Planning Strategy

Students are able to comprehend the concept of planning strategy, evaluate and apply strategy management in the field of animal industry. Students will also be able to analyze both external and internal factors in agribusiness, especially strategy method, environmental assessment, consumers behavior, risk, analysis scenario, human resources, decision making, and growth strategy and their implementation in livestock industry planning.

## > Development of Animal Genetic Resources

Students in this course will discuss various topics in the development of animal genetic resources, i.e. principal concepts of genetics, application of molecular genetics in livestock animals, selection based on one or multiple traits, cross breeding, animal's endocrine system, environmental effects on animal's physiology and reproduction, artificial insemination, in vitro fertilization, and embryo transfer.

## > Thesis

Thesis project consists of:

- a. Thesis proposal (2 credits), consists of research proposal writing and seminar.
- b. Research and thesis writing (5 credits)
- c. Research result seminar (2 credits)
- d. Thesis examination (2 credits)
- e. Publication (1 credits)

The publication meant in this case is the research result that has been sent to the editor minimum to the accredited national journal or the research result that has been agreed by the editor to be published on the proceeding seminar with the Scopus index.

#### 2. Specialization's Courses

# 2.1. Animal Nutrition and Feed Science Specialization

#### **Specialization's Compulsory Courses**

#### > Comparative Nutrition

The course cover the physiological difference of digestive system, including nutrient absorption and utilization that distinct ruminant and non-ruminant. Student will also learn the microbe's metabolism in digestive tracts and its association with host animal.

#### Forage Manipulation and Feed Technology

The course is designed to enable students to be competent in forage manipulation, from cellular/genetics level to farm level. It includes altering the forages growth rate, production and forage quality, forage preservation, improving agricultural waste quality as feed, and also feed concentrate storage.

#### > Research Techniques in Animal Nutrition and Feed Science

Students who take this course will attain knowledge regarding research techniques that commonly used in the field of animal nutrition and fed science. The basic theory of research techniques is delivered to student to provides foundation that will be a tool to comprehend research techniques more comprehensively. Thus, students will have the notion when it comes to choose a research technique and will ease them when interpreting their research results. Both in vitro and in vivo techniques are covered in the course. The course will be delivered in interactive lecture and discussion. Students who take this course are expected to be able to opt the best techniques according to their research purpose, able to design an experiment, and able to perform statistical analysis on their data.

#### **Specialization's Elective Courses**

#### > Nutritional Biochemistry and Physiology

The physiological activities that include digestion, absorption, and metabolism of nutrient play important roles in animals. In comprehending the biological process of livestock animals, it is required to look at the physiological and biochemical aspects of it. In this course, students will learn feed and water intake regulation (ruminant and non-ruminant), the physiological aspect of digestion (poultry, non-ruminant, and ruminant), digestion process and nutrient absorption. This course also covers the nutrient metabolism of various nutrients: carbohydrate, protein, lipid, and nucleic acid in ruminant and nonruminant. Furthermore, students will learn the structure and kinetics of enzyme and its abnormalities, physiological systems that include hormonal, immune, and detoxification.

#### Biodynamic of Grazed Animal's Feed

The course covers the definition of biodynamic in animal production system, grazing management that includes carrying capacity, stocking rate, and the assessment grazing pressure. Grazing evaluation towards soil, livestock animal, water, air quality, and their association with forage and pasture and soil microbes to assess the system biodynamic.

#### Feed Fabrication

Feed Fabrication course is design to equip students to be in the latest technology used in feed fabrication, designing feed mill, and feed processing. To achieve that purpose, students are provided with the knowledge on choosing grinder, mixer, and storing method for concentrate either in form of complete feed or raw materials. Students will also be engaged in practical activity, i.e. concentrate making, grinding, and mixing.

#### > Animal Microbiology

Microorganisms (i.e. bacteria, protozoa, and fungi) have shown to have significant roles on the growth, production, and reproduction of both ruminant and non-ruminant animals, with their functional association in rumen, digestive system, and metabolism. The course will be begun with topic in microorganisms' classification and their roles in digestive tracts, followed with the explanation on their biochemical interaction with other microorganisms and host animal. Other topics covered in the course include the fermentation process in digestive system, genetic engineering in microbes to manipulate the fermentation process that will enhance the productivity of livestock animal. The study of intermicrobes interaction in utilizing feed is thought to be necessary to create sustainable animal production.

#### Ruminant Nutrition

The course discusses the different aspects of physiological and anatomical features of digestive system and nutrient metabolism on ruminant and herbivore animals. The course is designed to equip students to be competent in herbivore classification based on forage, the anatomy of digestive tract, the physiology of digestive tracts (i.e. digestion, absorption, nutrient metabolism and utilization on ruminant animal). As addition to the theory, students will be provided with practical activity on functional feed that has other functions

besides as nutrient sources. This practice will be carried out in the laboratory, and if possible it will also be done in vivo. Thus, students are likely able to apply their comprehension in the course to conduct research in ruminant nutrition.

#### > Instrumentation in Animal Nutrition and Feed Science

This course is offered for students who are interested in becoming researchers in the field of animal nutrition and feed science. This course provides understanding, knowledge, and manual procedure of instruments used in the animal nutrition research, sampling method, and analysis methods in animal nutrition research.

#### Forage and Pasture Production

This course covers numerous topics in forage and pasture production. It includes definition of forage and pasture, land management, quality evaluation and feed availability analysis in pasture land, as well as the modern and latest techniques used in forage production (i.e. cell culture).

#### Feed Quality Control

The Feed Quality Control course is designed to equip students to be competent in determining the quality of feedstuffs and to control the quality of feedstuffs by looking at their authenticity. This is due to the quality of raw materials that determine the quality of finished feed. In addition to theory, students will be engaged in assessing feedstuff quality macroscopically, microscopically, and chemically.

#### > Poultry and Non-Ruminant Nutrition

The Poultry Nutrition course is focused on the poultry nutrition, especially broilers or laying hens as well as non-ruminant nutrition (i.e. rabbit and pig). Students will discuss various topics in the field that includes the latest technological and science development, digestive system, nutrient digestibility, absorption and its limiting factors, nutrient functions, and nutrient requirement for poultry and non-ruminant animals.

#### Fermentation and Enzyme Technology

The course discusses the process, scope, purpose of fermentation, and its relationship with enzyme technologies and application in animal production system (i.e. waste management, feed additive, and feed quality improvement). Fermentation media, microbial metabolism, microbial growth, and analysis of fermentation kinetics. The metabolic regulation will be explained as a foundation to obtain desired isolate, thus can be preserved and applied later. The course also covers the mechanism of action and enzyme kinetics, followed by a discussion on enzyme isolation and purification. Applied genetic recombination will be explained to students in order to give them notion on how to improve fermentation efficiency. Various technology on fermentation and enzyme production is discussed at the latter.

#### 2.2. Animal Production System Specialization

#### **Specialization's Compulsory Courses**

#### > Dairy Production System

The course is focused on the complexity of dairy production system, functioning as milk producer. The comprehension is intended to explore and design sustainable dairy production. It also covers other aspects in the double purpose of dairy animals, economic viability, social acceptability, animal welfare, animal behavior, and environmental aspects.

#### > Meat, Draught, and Companion Animal Production System

The course is focused on the complexities of livestock production that functions as meat, draught, and companion animals. That understanding is intended to explore and design production system that has sustainability in the level of farm to regional. It also covers other aspects in the double purpose of the animals, economic viability, social acceptability, animal welfare, animal behavior, and environmental aspects.

#### Poultry Production System

The course is focused on the complexities of poultry production. That understanding is intended to explore and design sustainable poultry production system. It also covers other aspects in the double purpose of the poultry, economic viability, social acceptability, animal welfare, animal behavior, and environmental aspects.

#### **Specialization's Elective Courses**

#### > Lactation Biology of Tropical Dairy Animals

This course discusses the biological lactation process of dairy cows in the tropics. Most of dairy cows developed in Indonesia come from temperate regions. Thus, their adaptation and acclimatization are vital to understand, especially those that take place during lactation. The topics discussed in the course include the anatomy and physiology of lactation, the development of mammary glands, the biosynthesis of milk constituents, nutrient requirement and formulation for dairy animals, feed management, and animal selection to acquire high productivity. The course is delivered in form of classical lecture, discussion, assignment, and presentation. Those approaches aim to provide two-way interactive learning situation. Other detailed topics are provided in practical activity that employs facilities (i.e. laboratory, dairy production unit, animal recording system, and other facilities owned by partner institutions.

#### > Industrial Techniques of Meat, Sport, and Companion Animals

The course covers production management of meat, draught, and companion animals to produce high productivity. This aim is approached by emphasizing on its efficiency and sustainability.

#### > Tropical Poultry Industry

Poultry egg and meat industry is becoming a pivotal mean in food security system, providing nutritious food, especially as protein sources. Both broiler and laying hens are originated from developed countries. And the world's poultry industries, including in Indonesia have been advancing in terms of feed, equipment, and vaccine. Poultry industry in tropic requires adjustments as macro environments determine the productivity performance of both broiler and laying hens. Besides of macro environment factors, various aspects including infrastructure, disease pattern in tropic, and comparison of poultry industry in sub-tropic and tropic need to be measured.

#### > Dairy and Milk Industry

Discuss about Dairy Cluster Industry (Stock, *Good Dairy Farming Practice*, dairy animal other than cow), Global Dairy System (Oceania, America, India/China, and Africa), Global Dairy Trade (*marketing, distribution, trade distortion and value added strategy*).

Production Biology of Meat, Draught, and Companion Animal

The course develops an understanding towards growth process and production of meat, draught, and companion animals, started from ovum period, fetus, until becoming adult animals. This course also aims to develop and apply technological aspects in the meat, draught, and companion animal production.

## > Research Techniques in Animal Production

This course discusses about research techniques to improve meat, egg, and milk production. Research method on livestock commodity and the physiology of reproduction is thought to be necessary. Learning process is carried out by using various approaches: case study, classical class, and discussion. Students will be evaluated through quiz and examinations.

## Poultry Behavior and Welfare

Poultry behavior in the tropic is designed for students to learn about poultry behavior that related to animal welfare and physiology. The lecture is begun the explanation of the environment factors affecting poultry physiology, mainly hormonal system, spawning physiology, feeding physiology, and stress condition. The relationship between those physiological aspects and poultry behavior will be specifically studied, especially the effects on production performance. Some forms of behavior that will be studied include feeding, mating, social, and comfort behaviors. The fear behavior will studied physiologically since its is strongly related to adaptability and biosecurity of poultry to acquire comfort. The course will be carried out by classical lecture and other interactive approaches (i.e. watching video related to the lecture's topic).

# 2.3. Policy and Livestock Business Specialization

# Specialization's Compulsory Courses

# > Statistic in Social and Business

The course covers 2 branches of statistic, i.e. descriptive statistic and inferential statistic. The descriptive statistic includes collecting, summarizing, and interpreting data numerically and graphically. Inferential statistic includes opting and applying the right statistical techniques to estimate or test population based on samples. Topics covered in the course ranging from descriptive statistic, correlation and simple regression, probability, point and interval estimation, hypothesis test, multiple regression, time-series analysis. Students are expected to comprehend on how to use both parametric and non-parametric statistic; develop comprehension on the statistical inferention, ethics on data and statistical analysis.

# > Experimental Design in Livestock Socio-economics and Business

This course is designed to form students' ability to perform research in the field of socio-economics and business, with both quantitative and qualitative approaches. Topics covered in this course include the overview of experiment design in the field of socio-economics and business. research process, research ethics, data sources, survey, experiment, observation, qualitative research and its approach, measurement and measurement scales, questionnaires, population and sampling design, data analysis and interpretation, and research result writing.

Livestock Agribusiness Policy

Students who take this course will discuss various policies related to monetary, fiscal, and forecasting trade that are applied in Indonesia and their influences on global economy. Topics covered in this course are: history of Indonesian economy, growth and changes in Indonesia's economic structure, government's intervention in agriculture, supporting farm price and income, fiscal and monetary policy, and the determination of national economic balance.

#### **Specialization's Elective Courses**

#### > Managerial Economics

The course provides an explanation on economic managerial that applies economic theory and methods in business and administrative decision making, the uses of economic analysis tools and techniques to solve managerial problem, linking economic concepts and decision making to develop tools that helps in managerial decision making.

#### Extension Science and Education

This 2 credits course covers the fundamentality and philosophy of extension science and education, the principle of andragogy, and theory of andragogy. Students will also discuss the extension methods and approaches, planning, evaluation of extension and diffusion, and innovation adoption.

#### Project Management

Project management is an important part for project implementers. Several aspects studied in this course are understanding project management, project cycle, project feasibility study (technical, management, environmental, and socio-politics), decision making, control, management function, conflicts, risks and quality management, rural assessments with RRA and PRA approaches.

#### Marketing Management

Marketing management courses are provided to explain various marketing concepts, theories, and strategies applied in livestock industry and other related industries. Students will learn about market segmentation, market target determination, and product/brand positioning analysis and product, price, distribution and marketing communication development strategy.

#### Livestock Business Communication

This course studies the application of economic theories both micro and macro in the practice of agricultural business management, devoted to businesses related to the livestock industry. After taking this course, students are expected to be able to understand livestock business management, leadership, and communication in livestock agribusiness. This course will also include community relations of farmers, extension agents, marketing agribusiness start up, and other institutions. Students are able to understand and analyze the latest condition of the development of agribusiness, especially in the livestock sector, create business plan, and have communication and leadership skills in solving business problems in agriculture, especially in livestock industry.

#### Human Resources Management

Students who take this course will study human resources management that include planning, job analysis and design, recruitment, selection and placement, training, and development, performance evaluation, compensation and wage system, work motivation, stress and safety, work environment, and leadership.

Rural Economic Development

The course is designed to discuss various topics in rural development. Concept, theories, as well cases in rural development and agriculture/livestock will be covered in this course. Other topics include poverty, food security, rural economic activities, rural innovation, institutions and cooperatives, rural development, and village development planning. Rural development is very vital in encouraging the development of sustainable livestock industry.

## 2.4. Animal Product Technology Specialization

#### **Specialization's Compulsory Courses**

#### > Animal Products Bioprocess

The course covers the uses of microbes, enzyme, and bioprocess manipulation on animal products processing.

#### > Animal Products Quality Control

The course covers aspects in quality standard and assurance, quality standardization, and analysis in animal products quality control.

#### **Specialization's Elective Courses**

## > Muscle Biology

**Muscle Biology** The course covers muscle and meat characteristics, muscle's growth and development, chemical and physical quality, microstructure and tissue development muscle conversion into meat abnormality in meat quality and

development, muscle conversion into meat, abnormality in meat quality, and variables in carcass and meat quality.

#### Leather Science and Industry

Various topics in leather science and industry: biochemical aspects, tissue structure, tanning, and leather industry (related with the material availability from livestock industry).

# > Advanced Milk Science and Technology

Chemical, physical and functional characteristics of milk components, related to milk processing into various products (condensed, powdered, fermented and cheese).

#### > Packaging and Display of Animal Products

The development of packaging technology, package's design and function, and display techniques of animal products.

#### Functional Food of Animal Products

Discussing functional components on meat, milk, egg, and animal products for health.

#### > Advanced Egg Science and Technology

Structure and chemical compositions of egg, physico-chemical characteristics and functions of egg, microbiology and egg antimicrobials, nutrient value of egg and its products, yolk's potency as immunoglobulin and choline sources, designed egg, the uses of eggshell and its membrane.

#### Meat Processing and Industry

Discussing basic principles in lean meat production, lipid metabolism in meat and its products, meat proteolysis enzymes and meat products quality, stress and meat quality, meat processing and its products, chemical quality alterations of meat and its products.

#### > Research Techniques in Animal Products Technology

Discussing research techniques in the field of animal products technology from planning to perform the research.

#### Animal Waste Technology

Discussing the potency and threat of livestock animal, handling and processing technologies both physically, chemically and biologically; biochemical and microbiological aspects of waste management, bio-methanogen and composting, as well as bioremediation of the environment contaminated with heavy metals.

#### 2.5. Tropical Animal Reproduction and Breeding Specialization

#### **Specialization's Compulsory Courses**

#### > Improvement of Animal Reproduction Efficiency

Various applied reproduction technologies such as artificial insemination and estrous synchronization have been used to improve the livestock productivity. This course covers the estrous synchronization, sperm processing, artificial insemination, superovulation, in vitro fertilization, embryo collection, embryo transfer cloning, and transgenic technology.

#### > Improvement of Animal Genetic Quality

Students who take this course are expected to be able to comprehend the principle of genetic and statistic in a livestock population, the factors affecting genetic imbalance and preventive measures to inhibit the occurrence of inbreeding and inbreeding depression, heterocyst, and the alteration of gene frequency.

#### **Specialization's Elective Courses**

#### > Animal Reproduction and Physiology

This course covers various topics: sex biology, circulatory system, respiration system, water and exertion balance, reproductive system, reproductive system, estrous cycle, fertilization, pregnancy, prenatal development, parturition, and partus initiation. The course will also discuss reproductive process, fertility, infertility and sterility, viewed from various viewpoints: genetically, physiologically, chemically, histologically, and hormonally.

#### Advanced Animal Breeding

Advanced Animal Breeding covers methods and procedures taken in animal breeding for ruminant and non-ruminant. One of animal breeding methods covered in this course selection and breeding management in order to improve the animal productivity.

#### > Advanced Animal Evaluation and Judging

This course covers the methods in animal evaluation: quantitatively, qualitatively, and judging. Quantitative traits include body weight, size, and carcass performance. Qualitative traits include exterior performance such as head, neck, leg, body, and tails. Livestock animals discussed in this course include beef cattle, dairy cow, buffalo, goat, sheep, and swine.

#### Advanced Animal Endocrinology

This course covers animal endocrine system. Study approach taken include: macro structure, micro structure, faali system, biochemical system, biological system, neuroendocrine system, and digestive system.

## > Environmental Physiology of Tropical Animal

Students in this course will learn environmental factors (physical, chemical, biological and social) that affect homeostasis, faali status, productivity, and reproduction of livestock animal in both tropic and non-tropical regions. Students will also discuss the danger of pollutant and toxicant available in the environment.

## > Cytogenetic

Cytogenetic discuss various aspects associated with cell, that include the structure of chromosome, chromosome's characteristic, the alteration of chromosome's structure and number, chromosome's evolution and its phenotypic expression.

# **APPENDIX**

# 1. Curriculum Map

|             |                |   |                                |        | Expected Learning Outcome (LO)** |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------|----------------|---|--------------------------------|--------|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Semester    | Code           | Course                                      | Туре                           | Credit |                                  |   | Α |   |   |   | В |   |   |   | С |   |   |   |   | D |   |
|             |                |   |                                |        | 1                                | 2 | 3 | 4 | 1 | 2 | 3 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 5 | 6 |
| Odd/Even    | PTU 6001       | Philosophy of Science                       | Study Program's<br>Compulsory  | 2/0    | Х                                | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |   |   |
| Odd/Even    | PTU 6002       | Experiment Design                           | Study Program's<br>Compulsory  | 2/0    | Х                                | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| Odd/Even    | PTU 6003       | Animal Production System                    | Study Program's<br>Compulsory  | 2/0    |                                  |   | Х |   | Х | Х | Х | Х | х | х | Х | Х | Х | Х | Х | Х | Х |
| Odd/Even    | PTU 6004       | Advanced Animal Products<br>Processing      | Study Program's<br>Compulsory  | 2/0    |                                  |   |   |   |   | Х |   | Х |   | х | Х |   |   |   |   |   |   |
| Odd/Even    | PTU 6005       | Tropical Animal Feed                        | Study Program's<br>Compulsory  | 2/0    |                                  | Х |   |   | Х |   | Х | Х |   | х | Х |   | Х | Х | Х |   |   |
| Odd/Even    | PTU 6006       | Livestock Agribusiness Planning<br>Strategy | Study Program's<br>Compulsory  | 2/0    |                                  | Х | Х |   | Х | Х |   |   |   | х | Х | Х | Х |   |   |   |   |
| Odd/Even    | PTU 6007       | Development of Animal Genetic<br>Resources  | Study Program's<br>Compulsory  | 2/0    |                                  |   |   | х | Х | Х | Х | Х |   | х | Х |   | Х |   |   |   |   |
| Odd/Even    | PTU 7099       | Thesis                                      |                                | 12     |                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|             |                | 1. Research Proposal and Seminar            |                                | 2/0    |                                  |   |   |   | Х | Х | Х | Х |   |   |   |   |   |   |   |   |   |
|             |                | 2. Research and Writing                     |                                | 5/0    | Х                                | Х | Х | Х |   |   | Х | Х | Х | Х | Х |   |   |   |   |   |   |
|             |                | 3. Research Result Seminar                  |                                | 2/0    | Х                                | Х | Х |   |   |   |   |   |   |   |   | Х | Х | Х | Х | Х | Х |
|             |                | 4. Thesis Defense                           |                                | 2/0    | Х                                | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |
|             |                | 5. Publication                              |                                | 1/0    |                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Х |
| Animal Nutr | ition and Feed |   |                                |        |                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Odd         | PTN 6101       | Comparative Nutrition                       | Specialization's<br>Compulsory | 1/1    | Х                                |   | Х | Х | Х | Х | Х |   | Х | Х | Х |   | Х | Х |   | Х | Х |
| Odd         | PTN 6102       | Forage Engineering and Feed<br>Technology   | Specialization's<br>Compulsory | 2/0    |                                  |   |   | Х | Х | Х | Х |   | Х | Х | Х | Х | Х | Х | Х |   |   |

| Even       | PTN 6103       | Research Techniques in Animal<br>Nutrition and Feed Science    | Specialization's<br>Compulsory | 2/0 | Х |   |   | Х |   |   | Х |   | Х |   |   | Х |   |   |   |   |   |
|------------|----------------|--|--------------------------------|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Odd        | PTN 6104       | Nutritional Biochemistry and<br>Physiology                     | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х | Х | Х | Х | х | х |   |   |   |   |   |   |
| Odd        | PTN 6105       | Biodynamic in Grazed Animal's<br>Feed                          | Specialization's Elective      | 2/0 |   | Х |   |   | Х |   |   | Х |   | Х | х |   |   |   |   |   |   |
| Odd        | PTN 6106       | Feed Quality Control   | Specialization's Elective      | 1/1 | Х |   |   |   | Х |   | Х | Х |   | Х | Х |   |   |   |   |   |   |
| Odd        | PTN 6107       | Animal Microbiology  | Specialization's Elective      | 1/1 |   |   |   |   | Х | Х |   |   | Х | Х |   | Х | Х |   |   |   |   |
| Odd        | PTN 6108       | Ruminant Nutrition   | Specialization's Elective      | 1/1 | Х |   |   |   | Х | Х | Х | Х | Х |   | Х | Х |   |   |   |   |   |
| Even       | PTN 6109       | Instrumentation in Animal<br>Nutrition and Feed Science        | Specialization's Elective      | 2/0 | Х |   |   |   | Х | Х | Х | Х | Х |   | Х | Х |   |   |   |   |   |
| Even       | PTN 6110       | Forage and Pasture Production                                  | Specialization's Elective      | 1/1 |   |   | Х |   |   | Х |   | Х |   | Х | Х |   |   | Х |   |   |   |
| Even       | PTN 6111       | Feed Fabrication   | Specialization's Elective      | 1/1 |   |   |   | Х | Х | Х |   | Х |   |   | Х |   |   | Х |   |   | Х |
| Even       | PTN 6112       | Poultry and Non Ruminant<br>Nutrition                          | Specialization's Elective      | 2/0 |   | Х | Х | Х | Х | Х | Х | Х | Х |   |   | Х | Х | Х | Х | Х | Х |
| Even       | PTN 6113       | Fermentation and Enzyme<br>Technology                          | Specialization's Elective      | 1/1 |   |   |   |   | Х | Х |   |   | Х | х |   | Х | Х |   |   |   |   |
| Animal Pro | duction System | n Specialization   |                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Odd        | PTD 6201       | Dairy Production System  | Specialization's<br>Compulsory | 2/0 |   |   | Х |   | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| Odd        | PTD 6202       | Meat, Draught, and Companion<br>Animal Production System       | Specialization's<br>Compulsory | 2/0 |   |   | Х |   | Х | Х | Х | Х | Х | х | х | Х | Х | Х | Х | Х | Х |
| Even       | PTD 6203       | Poultry Production System                                      | Specialization's<br>Compulsory | 2/0 |   |   | Х |   | Х | Х | Х | Х | Х | Х | х | Х | Х | Х | Х | Х | Х |
| Odd        | PTD 6204       | Lactation Biology System                                       | Specialization's Elective      | 3/0 |   |   |   | Х | Х | Х | Х |   | Х | Х | Х | Х |   |   | Х | Х | Х |
| Odd        | PTD 6205       | Industrial Techniques of Meat,<br>Sport, and Companion Animals | Specialization's Elective      | 3/0 |   |   |   |   | Х | Х | Х | Х |   | х | Х | Х | Х | Х | Х | Х | Х |
| Odd        | PTD 6206       | Tropical Poultry Industry                                      | Specialization's Elective      | 3/0 | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| Even       | PTD 6207       | Dairy and Milk Industry  | Specialization's Elective      | 2/1 | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| Even       | PTD 6208       | Production Biology of Meat,<br>Draught, and Companion Animal   | Specialization's Elective      | 3/0 |   |   |   |   | Х | Х | Х | Х |   | Х | Х | Х | Х | Х | Х |   | Х |
| Even       | PTD 6209       | Research Techniques in Animal<br>Production                    | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х | Х | Х |   | Х | Х | Х | Х | Х | Х | Х | Х |
| Even       | PTD 6210       | Poultry Behavior and Welfare                                   | Specialization's Elective      | 3/0 | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |

|   |                 |  |                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | _ |   |
|---|-----------------|--|--------------------------------|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Policy and                                | Livestock Busin | ess Specialization                                     |                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Odd                                       | PTE 6301        | Statistic in Social and Business                       | Specialization's<br>Compulsory | 2/0 |   |   |   |   |   |   | Х |   | Х |   | Х | Х | Х | Х | Х | Х | Х |
| Odd                                       | PTE 6302        | Experimental Design in Livestock<br>Socio and Business | Specialization's<br>Compulsory | 2/0 |   |   |   | Х |   | Х | Х |   | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| Even                                      | PTE 6307        | Livestock Agribusiness Policy                          | Specialization's<br>Compulsory | 2/0 |   |   | Х | Х | Х | Х |   |   |   | Х | Х |   |   | Х | Х |   |   |
| Odd                                       | PTE 6304        | Managerial Economics                                   | Specialization's Elective      | 2/0 |   |   | Х | Х |   | Х | Х |   | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| Odd                                       | PTE 6305        | Extension Science and Education                        | Specialization's Elective      | 2/0 |   |   | Х | Х |   | Х |   |   |   | Х | Х | Х |   | Х |   |   | Х |
| Odd                                       | PTE 6306        | Project Management                                     | Specialization's Elective      | 3/0 |   | Х | Х |   |   | Х |   |   |   | Х | Х | Х | Х |   |   |   |   |
| Even                                      | PTE 6303        | Marketing Management                                   | Specialization's Elective      | 2/1 |   |   | Х | Х |   | Х |   |   | Х | Х | Х |   |   |   |   | Х | Х |
| Even                                      | PTE 6308        | Livestock Business<br>Communication                    | Specialization's Elective      | 2/0 |   |   |   |   |   | Х |   | Х | Х | Х | Х | Х | Х | Х | Х |   | Х |
| Even                                      | PTE 6309        | Human Resource Management                              | Specialization's Elective      | 2/0 | Х |   | Х |   | Х |   |   | Х |   | Х |   | Х |   |   |   |   |   |
| Even                                      | PTE 6310        | Rural and Development<br>Economics                     | Specialization's Elective      | 2/0 |   | Х | Х |   | Х | Х |   |   |   | Х | Х | Х | Х |   |   |   |   |
| Animal Products Technology Specialization |                 |  |                                |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Odd                                       | PTH 6401        | Animal Products Bioprocess                             | Specialization's<br>Compulsory | 3/0 |   |   |   |   | Х | Х |   | Х | Х |   | Х | Х | Х |   | Х |   |   |
| Even                                      | PTH 6402        | Animal Products Quality Control                        | Specialization's<br>Compulsory | 3/0 |   |   |   |   | Х | Х | Х | Х | Х | Х | Х |   |   |   |   |   |   |
| Odd                                       | PTH 6403        | Muscle Biology   | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х |   | Х |   |   |   |   |   |   |   |   |   |
| Odd                                       | PTH 6404        | Leather Science and Industry                           | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х | Х | Х | Х |   |   | Х |   |   |   |   |   |
| Odd                                       | PTH 6405        | Advanced Milk Science and<br>Technology                | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х | Х | Х | Х | Х | Х |   |   |   |   |   |   |
| Odd                                       | PTH 6406        | Packaging and Display of Animal<br>Products            | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х |   |   |   |   |   |   |   |   |   |   |   |
| Odd                                       | PTH 6407        | Functional Food of Animal<br>Products                  | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х | Х | Х | Х | Х | х |   |   |   |   |   |   |
| Even                                      | PTH 6408        | Advanced Egg Science and<br>Technology                 | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х | Х | Х | Х | Х | х |   |   |   |   |   |   |
| Even                                      | PTH 6409        | Meat Processing and<br>Technology                      | Specialization's Elective      | 2/0 |   |   |   |   | Х |   |   | Х |   |   |   |   |   |   |   |   |   |
| Even                                      | PTH 6410        | Research Techniques in Animal                          | Specialization's Elective      | 2/0 |   |   |   |   | Х | Х | Х | Х | Х | Х | Х |   |   |   |   |   |   |

|             |  | Products Technology                              |                                |     |   |   |   |   |   |   |   |   |   |  |
|-------------|--|--|--------------------------------|-----|---|---|---|---|---|---|---|---|---|--|
| Even        | PTH 6411   | Animal Waste Technology                          | Specialization's Elective      | 2/0 |   | Х | Х | Х |   | Х | Х |   |   |  |
| Tropical An | Tropical Animal Reproduction and Breeding Specialization |  |                                |     |   |   |   |   |   |   |   |   |   |  |
| Odd         | PTR 6501   | Improvement of Animal<br>Reproduction Efficiency | Specialization's<br>Compulsory | 2/1 | х | Х | х | Х | Х |   | Х | Х |   |  |
| Even        | PTR 6502   | Improvement of Animal Genetic<br>Quality         | Specialization's<br>Compulsory | 3/0 |   |   | х | Х | Х |   | Х | Х | Х |  |
| Odd         | PTR 6503   | Environmental Physiology of<br>Tropical Animals  | Specialization's Elective      | 2/0 |   | Х | х | Х | Х |   | Х | Х |   |  |
| Odd         | PTR 6504   | Advanced Animal Breeding                         | Specialization's Elective      | 3/0 |   |   | Х | Х | Х |   | Х | Х |   |  |
| Odd         | PTR 6505   | Advanced Animal Evaluation and Judging           | Specialization's Elective      | 3/0 |   |   | х | Х | Х |   | Х | Х |   |  |
| Even        | PTR 6506   | Advanced Animal Endocrinology                    | Specialization's Elective      | 2/0 |   |   | Х | Х | Х |   | Х | Х |   |  |
| Even        | PTR 6507   | Animal Reproduction and<br>Physiology            | Specialization's Elective      | 2/1 |   |   | х | Х | Х |   | Х | Х |   |  |
| Even        | PTR 6508   | Cytogenetic                                      | Specialization's Elective      | 2/0 |   |   | Х | Х | Х |   | Х | Х |   |  |

# 2. Forms

# Appendix 1. Request for advisor appointment

| TAR   | FORM                                       | No.Dokumen    |
|-------|--|---------------|
|       | GRADUATE PROGRAM FACULTY OF ANIMAL SCIENCE | Berlaku mulai |
| HO:R  |  | Revisi        |
| LOC / | APPLICATION FOR ADVISOR APPOINTMENT        | Halaman       |

Dear Head of Study Program of Master in Animal Science Faculty of Animal Science Universitas Gadjah Mada

I am a student of Study Program of Master in Animal Science, Faculty of Animal Science, Universitas Gadjah Mada:

| Name              | : |
|-------------------|---|
| Student Number    | : |
| Title of Research | : |

proposed advisors as follows:

| 1. | Name | : | as Main Advisor   |
|----|------|---|-------------------|
| 2. | Name | : | as Second Advisor |

Yogyakarta, \_\_\_\_\_\_ Sincerely yours,

## Appendix 2. Request for examiner appointment

| HAR   | FORM                                       | No.Dokumen    |
|-------|--|---------------|
|       | GRADUATE PROGRAM FACULTY OF ANIMAL SCIENCE | Berlaku mulai |
| Y CH  |  | Revisi        |
| LOC / |  | Halaman       |

Dear Head of Study Program of Master in Animal Science Faculty of Animal Science Universitas Gadjah Mada

I am a student of Study Program of Master in Animal Science, Faculty of Animal Science, Universitas Gadjah Mada:

| Name              | : |
|-------------------|---|
| Student Number    | : |
| Title of Research | : |

proposed examiners as follows:

| 1. | Name | : | as Examiner |
|----|------|---|-------------|
| 2. | Name | : | as Examiner |

Yogyakarta, \_\_\_\_\_ Sincerely yours,

# Appendix 3. Formulir konsultasi program magister

| HAN HAN | FORM                                       | No.Dokumen    |
|---------|--|---------------|
|         | GRADUATE PROGRAM FACULTY OF ANIMAL SCIENCE | Berlaku mulai |
| GOR     |  | Revisi        |
|         | MONITORING FORM                            | Halaman       |
|         |  |               |
| Name    |  |               |

| Name                   | : |
|------------------------|---|
| Student Number         | : |
| Main Advisor           | : |
| Second Advisor         | : |
| Research Starting Date | : |
| Title of Research      | : |
|                        |   |

| Date | Advisor's Name | Material Consultation | Signature's<br>Advisor |
|------|----------------|-----------------------|------------------------|
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |
|      |                |                       |                        |

Fill out the form for each consultation

• The Form must be submitted at the end of semester

# Appendix 4. Formulir pembimbingan program magister

| A A B     |        | FORM                                 | No.Dokumen    |  |
|-----------|--------|--------------------------------------|---------------|--|
|           | GRADUA | TE PROGRAM FACULTY OF ANIMAL SCIENCE | Berlaku mulai |  |
| GOR       |        |                                      | Revisi        |  |
|           | PEMB   | IMBINGAN PROGRAM MAGISTER            | Halaman       |  |
|           |        |                                      |               |  |
| Name      |        | :                                    |               |  |
| Student N | lumber | :                                    |               |  |
| Cohort    |        | :                                    |               |  |
| Main Adv  | isor   | :                                    |               |  |
| Second A  | dvisor | :                                    |               |  |
| Home Ad   | dress  | :                                    |               |  |

.

| Advisor's Note | Signature |
|----------------|-----------|
|                |           |
|                |           |
|                |           |
|                |           |
|                |           |
|                |           |
|                |           |
|                |           |

• Fill out the form for each consultation

Advisor keeps this form

Phone Number

# Appendix 5. Study report

|                          |                             | FORM                           | No.Dokumen      |  |
|--------------------------|-----------------------------|--------------------------------|-----------------|--|
|                          | GRADUATE PF                 | OGRAM FACULTY OF ANIMAL SCIENC | E Berlaku mulai |  |
|                          |                             | STUDY REPORT                   | Revisi          |  |
| NOC 1                    |                             |                                | Halaman         |  |
|                          |                             |                                |                 |  |
| Semester                 |                             | :                              |                 |  |
| Name                     |                             | :                              |                 |  |
| Student Nu               | mber                        | :                              |                 |  |
| Cohort                   |                             | :                              |                 |  |
| Specializatio            | on                          | : -                            |                 |  |
| Tuition Fee              |                             | :                              |                 |  |
| Main Adviso              | or                          | :                              |                 |  |
| Second Adv               | isor                        | :                              |                 |  |
| Student pro              | gress                       |                                |                 |  |
| <ul> <li>Cred</li> </ul> | lit                         | :                              |                 |  |
| GPA                      |                             | :                              |                 |  |
| <ul> <li>Engl</li> </ul> | ish Proficiency So          | core :                         |                 |  |
| Acad                     | demic Potency Sc            | ore :                          |                 |  |
| Research Ti              | tle                         | :                              |                 |  |
| Research St              | arting Date                 | :                              | (month, year)   |  |
| Research Ar              | rea                         | :                              |                 |  |
| Researcher               |                             | :                              |                 |  |
| Frequency of             | of consultation:            |                                |                 |  |
|                          |                             |                                |                 |  |
| Assessment               | Assessment of student work: |                                |                 |  |
|                          |                             |                                |                 |  |
| Advice for s             | tudent:                     |                                |                 |  |
|                          |                             |                                |                 |  |
| Times to co              | mplete the study            | month year.                    |                 |  |
|                          |                             | Yogy                           | /akarta,        |  |

Main Advisor

Three Copies:

- Graduate Program
   Advisor
- 3. Student

## Appendix 6. Formulir permohonan sit in

| T A B | FORM                                       |  |
|-------|--|--|
|       | GRADUATE PROGRAM FACULTY OF ANIMAL SCIENCE |  |
|       |  |  |
|       | SIT IN FORM                                |  |

Dear Course Lecturer

.....

I hereby submit a request to be able to take part in lecture activities with the status of *sit in* to gain new knowledge :

| Name            | : |
|-----------------|---|
| Student number  | : |
| Course / credit | : |
| Study Program   | : |

Sincerely yours,

Main Advisor

Student Acknowledge by, Head of Study Program of Master in Animal Science

#### Appendix 7. Formulir permohonan seminar

| TAR | FORM                                       |  |
|-----|--|--|
|     | GRADUATE PROGRAM FACULTY OF ANIMAL SCIENCE |  |
|     |  |  |
|     | PERMOHONAN SEMINAR                         |  |

Dear Head of Study Program of Master in Animal Science Faculty of Animal Science Universitas Gadjah Mada

| Dengan | hormat, |
|--------|---------|
|--------|---------|

Yang bertanda tangan di bawah ini:

| :   |
|-----|
| :   |
| : 1 |
| : 2 |
| : 1 |
| : 2 |
| :   |
| :   |
|     |

submit an application to conduct a research proposal / research result seminar\*) at:

Day/Date : \_\_\_\_\_\_ Time : \_\_\_\_\_ WIB

Acknowledge by,

Yogyakarta, \_\_\_\_\_ Sincerely yours,

Main Advisor

\*) Cross the unnecessary ones

#### Appendix 10. Application form for comprehensive examination

| 1 ADR | FORM                                       |  |
|-------|--|--|
|       | GRADUATE PROGRAM FACULTY OF ANIMAL SCIENCE |  |
|       |  |  |
|       | COMPREHENSIVE EXMINATION FORM              |  |

Dear Head of Study Program of Master in Animal Science Faculty of Animal Science Universitas Gadjah Mada

The undersigned below:

| Name                      | : |
|---------------------------|---|
| Student Number            | : |
| Specialization            | : |
| Credit achieved           | : |
| GPA                       | : |
| English Proficiency Score | : |
| Academic Potency Score    | : |

Submit an application to take a comprehensive examination, with the board members as follows:

| 1. | <br>(Examiner) |
|----|----------------|
| 2. | <br>(Examiner) |

Yogyakarta, \_\_\_\_\_ Sincerely yours

Acknowledge by,

Student

Main Advisor

Second Advisor

## Appendix 11. Request for research application

|  | FORM                                       |  |
|--|--|--|
|  | GRADUATE PROGRAM FACULTY OF ANIMAL SCIENCE |  |
|  |  |  |
|  | APPLICATION FOR RESEARCH                   |  |

Dear Head of Study Program of Master in Animal Science Faculty of Animal Science Universitas Gadjah Mada

| The undersigned below: |   |
|------------------------|---|
| Name                   | : |
| Student Number         | : |
| Phone Number           | : |
| Main Advisor           | : |
| Second Advisor         | : |
| Research starting date | : |
| Research title         | : |

Submit an application for a research permit,

| То               | : |
|------------------|---|
| Research Place   |   |
| Research Address |   |
| Telp / Fax.      |   |
| Carbon Copy      |   |

Acknowledge by,

Yogyakarta, \_\_\_\_\_ Sincerely yours

Main Advisor

#### Appendix 12. Application form for thesis examination

| TAR | FORMULIR                                 |  |
|-----|--|--|
|     | PROGRAM PASCASARJANA FAKULTAS PETERNAKAN |  |
|     |  |  |
|     |  |  |

Dear Head of Study Program of Master in Animal Science Faculty of Animal Science Universitas Gadjah Mada

I am a student of Study Program of Master in Animal Science, Faculty of Animal Science, Universitas Gadjah Mada:

| Name                 | : |
|----------------------|---|
| Student Number       | : |
| Title of Research    | : |
| Title of Publication | : |
| Journal's Name       | : |
| Publication Status   | : |

Please allow to carry out a thesis test with that title.

As Thesis Examiner proposed as follows:

| 1. | Name | : | as Examiner |
|----|------|---|-------------|
| 2. | Name | : | as Examiner |

Yogyakarta, \_\_\_\_\_ Sincerely yours

Acknowledge by,

Student

Main Advisor

Second Advisor

#### Appendix 14. Formulir permohonan cuti akademik

| TAR | FORMULIR                                 |  |
|-----|--|--|
|     | PROGRAM PASCASARJANA FAKULTAS PETERNAKAN |  |
|     | PERMOHONAN CUTI AKADEMIK                 |  |
|     |  |  |

Dear Head of Study Program of Master in Animal Science Faculty of Animal Science Universitas Gadjah Mada

I am a student of Study Program of Master in Animal Science, Faculty of Animal Science, Universitas Gadjah Mada:

Name : \_\_\_\_\_\_ Student Number : \_\_\_\_\_

I hereby submit an application for academic leave for ..... (period of time) due to

Acknowledge by,

Yogyakarta, \_\_\_\_\_\_ Sincerely yours

Main Advisor

#### Appendix 15. Formulir permohonan perpanjangan studi

| TAR | FORMULIR                                 |  |
|-----|--|--|
|     | PROGRAM PASCASARJANA FAKULTAS PETERNAKAN |  |
|     | PERMOHONAN PERPANJANGAN STUDI            |  |
|     |  |  |

Dear Dean Faculty of Animal Science Universitas Gadjah Mada

Sehubungan dengan pendaftaran ulang mahasiswa Program Studi Magister Ilmu Peternakan Fakultas Peternakan UGM semester ....., dan telah habisnya masa studi, dengan ini saya yang bertanda tangan di bawah ini :

Nama : ..... NIM : ....

Program Studi : Magister Ilmu Peternakan

Alamatrumah : .....

mengajukan permohonan perpanjangan masa studi pada semester ...... dengan alasan .....

Sebagai bahan pertimbangan, bersama ini saya lampirkan Laporan Kemajuan Studi Mahasiswa Semester ...... dan Surat Pernyataan.

Demikian permohonan ini, atas perhatian dan terkabulnya permohonan ini saya ucapkan terima kasih.

Acknowledge by,

Yogyakarta, \_\_\_\_\_ Sincerely yours

Main Advisor

#### Appendix 16. Formulir surat pernyataan perpanjangan studi

| TAR | FORMULIR                                 |  |
|-----|--|--|
|     | PROGRAM PASCASARJANA FAKULTAS PETERNAKAN |  |
|     | SURAT PERNYATAAN PERPANJANGAN STUDI      |  |
|     |  |  |

# **STATEMENT LETTER**

Yang bertanda tangan di bawah ini saya mahasiswa Program Studi Magister Ilmu Peternakan Fakultas Peternakan UGM:

| Nama          | :                          |
|---------------|----------------------------|
| No. Mahasiswa | :                          |
| Program Studi | : Magister Ilmu Peternakan |

Demikian surat peryataan ini saya buat dengan sesungguhnya, tanpa ada paksaan dari pihak manapun.

Yogyakarta, \_\_\_\_\_ Sincerely yours

| Materai  |  |
|----------|--|
| Rp. 6000 |  |

# 3. Lecturers



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