06 December 2018

Course: Animal Reproduction and Physiology

1. **Type** **:** Specialization's Elective
2. **Code** **:** PTR 6507
3. **Credit** **:** 2/1
4. **Semester** **:** Even
5. **Description** **:**

   This course is designed to discuss the reproduction concept and its application on animal, endocrinology, anatomy, and physiology, spermatogenesis, oogenesis, fertilization, pregnancy, birth, and behavior. All those points will be learned for improving animal reproduction performance.

6. **Course Outcomes (CO)**

   CO 1 : Able to identify and explain the normal function and animal organs roles in life

   CO 2 : a. Explore, identify, and analyze the problems from case study that have relation with the symptomps and reproduction disturbance.
   b. Have fast respond for each phenomenon that might be happened in relation with the reproduction function.

   CO 3 : master the internet application to increase the knowledge and updated information

   CO 4 : able to cooperate in a team, leadership and be responsible.

7. **The Alignment Between CO and ELO**

CO*	ELO**																	
	A				B			C				D					
	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	5	6
CO 1					✓												
CO 2											✓						
CO 3													✓				
CO 4				✓													

*CO refers to point 6.

**Expected Learning Outcomes (ELO) are written below,

A. Attitudes and Behaviors	
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, religious, 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 Sciences 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 fed 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 and technology.
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 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 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 journal.
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.

8. Course Content

Week	CO	Topic/Subtopic	Learning Activity	Assessment Tools	Allocated Time	Lecturer
1	CO 1 & 3	Introduction	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team
2	CO 1 & 2	Male Reproductive System	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team

3	CO 1 & 2	Female Reproductive System	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team
4-5	CO 1 & 2	Hypothalamus and hypofisis	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team
6	CO 1 & 3	Hypothalamus-hypofisis-gonad association	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team
7	CO 1 & 3	Puberty	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team
Midterm Examination						
9	CO 1, 3 & 4	Oestrous cycle	Classical lecturer, discussion, e-learning, practicum	Quiz, assignment, practicum	2	Team
10	CO 1 & 3	Gametogenesis and gamete transport	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team
11	CO 1, 2 & 3	Fertilization	Classical lecturer, discussion, e-learning, practicum	Quiz, assignment practicum	2	Team
12-14	CO 1, 3 & 4	Prenatal development	Classical lecturer, discussion, e-learning, practicum	Quiz, assignment, practicum	2	Team
15	CO 1 & 3	Partum	Classical lecturer, discussion, e-learning	Quiz, assignment	2	Team

Final Examination

9. Practicum

Week	Activity	Methods	Total Hours
1	Oestrous cycle	Laboratory works	2
2	Fertilization	Laboratory works	6
3	Pregnancy	Laboratory works	2

10. Assessment

Component	CO	Percentage (%) for final grade	Minimum Satisfactory Level
Midterm	CO 1 & 2	25	70
Quiz	CO 1 & 2	10	70
Final Exam	CO 1 & 2	25	70
Practicum	CO 2, 3 & 4	25	70
Discussion	CO 2, 3 & 4	15	70
Total		100	

11. Lecturer

1. Ir. Diah Tri Widayati, S.Pt., M.P., Ph.D., IPM.
2. Dr. Ir. Sigit Bintara, S.Pt., M.Si., IPM.
3. Prof. Dr. Ir. Ismaya, M.Sc.

12. Reference

1. Arthur, G..E., D.E. Noakes and H. Pearson, 1982, Veterinary Reproduction and Obstetrics, 5th edition, The English Language Book Society and BailliereTindall, London.
2. Austin, C.R. and R.V. Short, 1987, Reproduction in Mammals, 2nd edition, , Cambridge University Press, Cambridge
3. Noakes, D.E., T.J. Parkinson, G.C.W. England, G. H. Arthurs. 2001. Arthus's Veterinary Reproduction. Saunders, Toronto
4. Cupps, P.T., 1991, Reproduction in Domestic Animals, 4th edition, Academic Press Inc, London.
5. Hafez, E.S.E., 2003, Reproduction in Farm Animals, 7th edition, Lea and Febiger, Philadelphia.
6. Bearden, J. H. and J.W. Fuquay, 2004, Applied Animal Reproduction, Reston Publishing Company Inc., Virginia.
7. Sorensen, 1979, Animal Reproduction: Principles and Practise, McGraw-Hill, New York.

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