Module Handbook
Master in Animal Science UGM

Module designation	Advanced Animal Breeding
Semester(s) in which the module is taught	Odd Semester
Person responsible for the module	– Prof. Dr. ir. Sumadi, MS., IPU. – Prof. Ir. Tety Hartatik, S.Pt., Ph.D,, IPM. – Ir. Dyah. Maharani, S.Pt., MP., Ph.D, IPM.
Language	Bahasa and English
Relation to curriculum	Specialization's elective
Teaching methods	Classical lecture and discussion
Workload (incl. contact hours, self-study hours)	Total workload: 119 hours Contact hours: – Lecture: 35 hours – Academic activity: 45 hours Private study: 45 hours
Credit points	3/0
Required and recommended prerequisites for joining the module	None

Module objectives/intended learning outcomes	Course Outcomes:
	1. Students are able to comprehend the concept of dairy cattle breeding, beef cattle breeding, buffalo, sheep, goat, pig.
	2. Students can apply the knowledge of animal breeding of beef cattle, dairy cattle, buffalo, goat, and pig.
	
	Expected Learning Outcomes:
	– Mastery in Sciences:
	  1. Able to master the current animal science and its application theory. (CO1)
	  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. (CO1)
	
	– Special skills:
	  1. Able to formulate and solve problems in the national development especially in terms of animal husbandry. (CO2)
	  2. Able to solve problems and anticipate issues in the development of animal science and industry. (CO2)

Content	Animal breeding is course that learns the method and procedure of beef cattle breeding implementation and dairy cattle through selection and breeding with final purpose of raising the animal productivity. The material discussed encompasses various methods, selections, and breeding, selection method, elections and breeding system which is precise as an attempt for raising the genetics quality of dairy and beef cattle, selection implementation procedure and the breeding for dairy and beef cattle. Students who have taken the course of advanced animal breeding of beef and dairy cattle are expected to be able to comprehend and explain various selection method and breeding which can be applied on dairy cattle and beef cattle population, selection implementation procedure and the breeding on a certain population of dairy cattle and beef cattle, buffalo, sheep, and goat.

Exams and assessment formats	Assessment Components	Course Outcomes (CO)	Percentage (%)
	1. Midterm exam (written test, take home exam, paper assignment)	CO1	35
	2. Final exam (written test, take home exam, paper assignment)	CO1	35
	3. Short quizzes	CO1	5
	4. Presentation	CO2	5
	5. Take-home written assignments (paper)	CO2	20

Grade and Score			
Grade	Score	Grade	Score
A	≥80	C+	45-49,9
A-	75-79,9	C	40-44,9
A/B	70-74,9	C-	35-39,9
B+	65-69,9	C/D	30-34,9
B	60-64,9	D+	25-29,9
B-	55-59,9	D	20-24,9
B/C	50-54,9	E	0-19,9

Study and examination requirements	The final grade in the module is composed of 35% performance on Midterm exam, 35% final exam, 5% quiz, 20% take-home assignments (paper), 5% presentation. Students must have a final grade of 65% or higher to pass
Reading list	– Hardjosubroto, W. 1994. Aplikasi Pemuliaan Ternak di Lapangan. PT. Gramedia Widiasarana, Jakarta. – Becker, W. A. 1992. Manual of Quantitative Genetics. Fifth Edition. Academic Enterprises. Pullman. Washington. – Lasley, J. F. 1978. Genetics of Livestock Improvement. Edisi Ketiga. Prentice Hall. Inc. Englewood Cliffs. New Jersey. – Falconer, D. S. dan T. F. C. Mackay. 1996. Introduction to Quantitative Genetics. Fourth Edition. Longman Group Ltd. Malaysia.