SEMESTER COURSE PLAN (SCP)

ANIMAL BREEDING
(23I01110803)

TEACHING TEAM

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BACHELOR PROGRAMME IN ANIMAL HUSBANDRY
FACULTY OF ANIMAL SCIENCE
HASANUDDIN UNIVERSITY
MAKASSAR
2025

BACHELOR PROGRAMME IN ANIMAL HUSBANDRY
FACULTY OF ANIMAL SCIENCE
HASANUDDIN UNIVERSITY

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Vision of the Study Program:
"Becoming an international standard in livestock education provider based on the Indonesian Maritime Continent"

Program Educational Objectives (PEO)

a) Improving the quality of learning implementation that is in line with the needs of industry and society based on research and international standards;
b) Creating networks and partnerships in the development of Animal Husbandry science and technology and its utilization in the implementation of learning;
c) Producing graduates who have character, vision, creativity and innovation in the field of animal husbandry science and technology with an entrepreneurial perspective.

Mission of the Study Program

a) Organizing quality learning to produce independent and globally competitive Animal Husbandry scholars.
b) Developing animal husbandry science for the benefit of the nation.
c) Providing a conducive academic climate for implementing education with an entrepreneurial perspective.

Profil Lulusan

No	Profil	Deskripsi
1	Manager	Graduates who apply concepts and techniques in managing livestock farming and institutions related to livestock businesses such as financial institutions
2.	Young Researcher	Graduates who able to apply scientific concepts and methods in solving problems in the development of the field of Animal Husbandry
3.	Planners	Graduates who able to prepare potential and problem analysis, as well as formulate plans and strategies for the development of the livestock and related industries
4.	Educators	Graduates who have the ability and skills to transfer science and technology to students in the field of animal husbandry
5.	Entrepreneur	Graduates who able to apply business in the field of Animal Husbandry as their main business, or business development to support livestock business
6	Bureaucrat	Graduates who are able to organize government duties, especially in the affairs of livestock development

ILO charged to MK

ILO-4 (KU1) - Able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing information technology-based science and technology (GS-01).
ILO-7 (KK1) - Able to apply livestock science and technology that is oriented towards increasing production, efficiency, quality, and sustainability (SS-01).

Course Learning Outcomes (CLO)

CLO-1: Analyze breeding in the field of animal husbandry (CPL4 and CPL7)

Sub-CLO

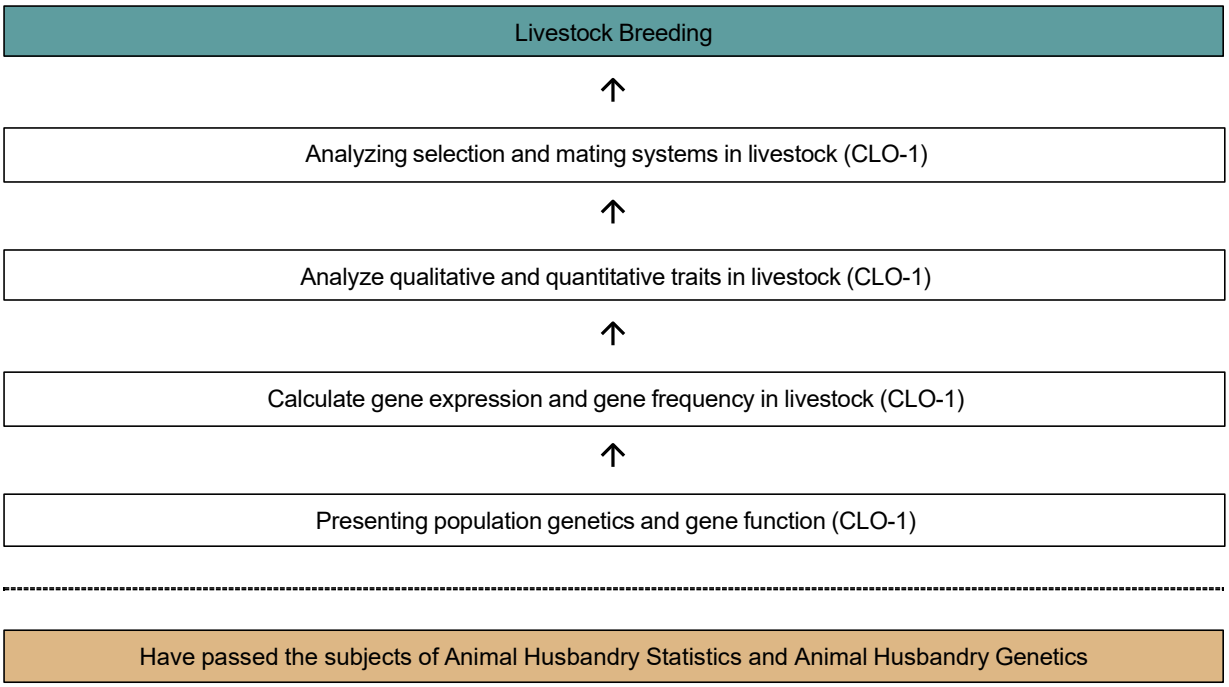
Sub-CLO 1: Explain population genetics and gene function (CLO 1)

Sub-CLO 2: Calculate gene expression and gene frequency in livestock (CLO 1)

Sub- CLO 3: Analyze qualitative and quantitative traits in livestock (CLO-1)

Sub CLO-4: Analyze selection and mating systems in livestock (CLO-1)

Learning Analysis



HASANUDDIN UNIVERSITY
FAKULTY OF ANIMAL SCIENCE
BACHELOR PROGRAMME IN ANIMAL HUSBANDRY
SEMESTER LEARNING PLAN

Course	Code	Course Group	Credits)	SEMESTER	Compilation Date
Animal Breeding	23I01110803	Animal Husbandry	3	2	March 3, 2025

AUTHORITY	SCPDeveloper Lecturer	Coordinator	Head of Study Program
	Prof. Dr. Ir. Lellah Rahim, M.Sc., IPU, ASEAN Eng., Prof.Dr.Ir Raden Roro Sri R.A.Bugiwati, M.Sc., Dr. Muhammad Ihsan Andi Dagong, S.Pt., M.Si	Prof. Dr. Ir. Lellah Rahim, M.Sc., IPU, ASEAN Eng.	Dr. Agr. Ir. Renny Fatmyah Utamy, S. Pt., M. Agr., IPM

Course Learning Outcomes	**ILOs that are imposed on the course**	
	ILO-4:	Able to apply logical, critical, systematic, and innovative thinking in the context of developing or implementing information technology-based science and technology (GS-01).
	ILO-7:	Able to apply livestock science and technology that is oriented towards increasing production, efficiency, quality, and sustainability (SS-01).
	ILO⇒ Course Learning Outcomes (CLO)	
	After completing this course, it is expected:	
	ILO-4	**ILO-1:** Analyze breeding in the field of animal husbandry
	ILO-7	**ILO-1:** Analyze breeding in the field of animal husbandry
	CLO⇒ Sub-CLO	
	SUB-CLO-1	**SUB-CLO-1:** Disclose population genetics and gene function
		SUB-CLO-2: Calculate gene expression and gene frequency in livestock
		SUB-CLO 3: Analyzing qualitative and quantitative traits in livestock
		SUB-CLO 4: Analyze selection and mating systems in livestock

Correlation between ILOs/CLOs to Sub-CLOs

ILO imposed on MK	CLO	SUB CLO	Form of Assessment*					Weight	Value	Student Score
			Formative	Summative						
				Task Paper Individual Paper	Quiz	Practicum/Field Practice	Group Presentation			
ILO-7	CLO-1	SUB-CLO-1		15	0	0	0	15		
ILO-7	CLO-1	SUB-CLO-2		15	0	0	0	15		
ILO-7	CLO-1	SUB-CLO-3		10	5	20	0	35		
ILO-7	CLO-1	SUB-CLO-4		15	0	10	10	35		
				55	5	30	10	100		

Course Description	This course discusses population genetics, gene function, gene expression, gene frequency, qualitative and quantitative traits, selection and mating systems in livestock.
Learning Materials /Subjects	1. Population genetics and gene function 2. Gene expression and frequency in livestock 3. Qualitative and quantitative traits in livestock 4. Selection and mating systems in livestock
Reference	**Key References** 1. Warwick.E.J., J. Maria Astuti and H. Hardjosubroto. 1983. Livestock Breeding, Gajah Mada University Press, Yogyakarta. 2. Pane, I. 1986. Cattle Breeding. Gramedia Jakarta. 3. Lasley, J.F. 1963. Genetics of Livestock Improvement. Prentice Hall, Inc, Engelwood. Cliffs, New Yersey. **Additional References** 1. Falconer, D.S., 1981. Introduction to Quantitative Genetics. 2nd Ed. Longman. United Kingdom. 2. Legates, J.E., and E.J. Warwick. 1990. Breeding and Improvement of Farm Animals. 8th Ed. McGraw-Hill Publishing Company, Singapore
Teaching Team	Prof. Dr. Ir. Lellah Rahim, M.Sc., IPU, ASEAN Eng., Prof.Dr.Ir Raden Roro Sri R.A.Bugiwati, M.Sc., Dr. Muhammad Ihsan Andi Dagong, S.Pt., M.Si
Required courses	Statistics for Livestock, Genetics for Livestock

Meeting to	Sub CLO (End ability of each	*Assessment*	Forms and Methods of *Learning* [estimated time] (*Learning Method*)	Learning Material (*Content*)	Asses s ment Weight

	learning stages)	*Indicator*	*Techniques & Criteria*	*Offline System*	*Online System*		(%)
1	2	3	4	5	6	7	8
1-3	Introduce population genetics and gene function (CLO-1)	**Formative:** - **Sumative:** Accuracy in describing population genetics and gene function	**Formative Criteria:** **Sumative Criteria:** Individual Paper Assignment (15) **Assessment Technique:** None	**Studying:** Cooperative learning 1 x 3 x 50' **Studying:** Problem-based Learning 2 x 3 x 50	**Other Forms:** Self-Directed Learning 1 x 3 x 50'	Learning Contract Population Genetics Gene function	15
4-6	Calculate gene expression and gene frequency in livestock (CLO-1)	**Formative:** - **Summative:** Accuracy of steps and descriptions in calculating gene expression and frequency	**Formative Criteria:** **Summative** **Criteria:** Individual Paper Assignment (15) **Assessment Technique:** None	**Studying:** Problem-based Learning 3 x 3 x 50"	**Other Forms:** Self-Directed Learning 1 x 3 x 50'	Law of segregation Law of free combination Gene expression Gene frequency	15

7-11	Analyze qualitative and quantitative traits in livestock (CLO- 1)	**Formative:** - **Summative:** Accuracy in analyzing qualitative and quantitative traits in livestock	**Formative** **Criteria: Sumative** **Criteria:** Quizzes (5) assessed with rubric I011240001 Individual Paper Assignment (10) assessed with rubric I011240003 Practicum/Field Practice (20) **Assessment Technique:** None	**Studying:** Problem-based Learning 5 x 3 x 50" **Practicum, Studio Practice, Workshop Practice, Field Practice:**	**Other Forms:** Self-Directed Learning 2 x 3 x 50	Pattern = Genotype + Environment + Interaction of Genotype with environment Qualitative traits Genetic abnormalities Quantitative traits Genetic parameters • Correlation • Heritability • Repitability	35
12-16	Analyze selection and mating system in livestock (CLO-1)	**Formative:** - **Summative:** Accuracy in analyzing the basis of selection, selection methods and mating systems in livestock.	**Formative** **Criteria: Sumative** **Criteria:** Individual Paper Assignment (15) assessed with rubric I011240003 Group Presentation (10) assessed with rubric I011240002 Practicum/Field Practice (10) **Assessment Technique:** None	**Studying:** Small Group Discussion, Problem-based Learning 5 x 3 x 50' **Practicum, Studio Practice, Workshop Practice, Field Practice:** Project-based Learning 3 x 1 x 170'	**Other Forms:** Self-Directed Learning 2 x 3 x 50	Definition of selection Basis of selection Selection methods Mating system • Inbreeding • Outbreeding	35
							100

Matrix ILO, CLO, and Assessment Methods

ILO / CLO	CLO-1
ILO-4 (KU1)	Individual Paper Assignment (Weight 15%) Individual Paper Assignment (Weight 15%) Quiz (Weight 5%) Individual Paper Assignment (Weight 10%) Practicum/Field Practice (Weight 20%) Individual Paper Assignment (Weight 15%) Group Presentation (Weight 10%) Practicum/Field Practice (Weight 10%)
ILO-7 (KK1)	Individual Paper Assignment (Weight 15%) Individual Paper Assignment (Weight 15%) Quiz (Weight 5%) Individual Paper Assignment (Weight 10%) Practicum/Field Practice (Weight 20%) Individual Paper Assignment (Weight 15%) Group Presentation (Weight 10%) Practicum/Field Practice (Weight 10%)

Evaluation Type and Assessment Weight

Type	Assessment Weight
Individual Paper Assignment	55
Quiz	5
Practicum/Field Practice	30
Group Presentation	10
Total	100

Assessment and Evaluation of Student Achievement of ILOs

ILO that are charged on the Course	CLO	SUB CLO	Form of Assessment*					Weight	Value	Student Score
			Formative	Summative						
				Task Paper Individual	Quizzes	Practicum/Field Practice	Group Presentation			
ILO-7	ILO-1	SUB-CLO- 1		15	0	0	0	15		
CPL-7	CLO- 1	SUB-CLO- 2		15	0	0	0	15		
CPL-7	CLO- 1	SUB-CLO- 3		10	5	20	0	35		
CPL-7	CLO- 1	SUB-CLO- 4		15	0	10	10	35		
				55	5	30	10	100		

HASANUDDIN UNIVERSITY
FACULTY OF ANIMAL SCIENCE
BACHELOR DEGREE IN ANIMAL HUSBANDRY

STUDENT STRUCTURED ASSIGNMENT PLAN

Course	Animal Breeding				
Code	23I01110803	**Credits**	3	**Semester**	2 (dua)
Developer Lecturer	Prof. Dr. Ir. Lellah Rahim, M.Sc., IPU, ASEAN Eng..				

Task Form	**Task Time**
Documents/Magazines	2 Weeks

Task Title

Explain the meaning of selection, the basis of selection, selection methods, and mating systems (inbreeding and outbreeding).

Course Learning Outcomes

Sub CLO-4: Analyze selection and mating systems in livestock (CLO-1

Task Description

The student's assignment is a group task to make a Paper Assignment " Explain the selection process, basis of selection, selection methods, and marriage system. The preparation of the paper follows the following procedure:

1) Each group chooses 1 of the sub-topics for 1 group: Definition of selection, basis of selection, selection methods, and mating system.
2) Discuss among the group members to identify the process stages for each of the selected sub-topics. Information related to the selected sub-topic can be obtained from textbooks and journals.
3) Create a paper with the following systematics:
   I. Introduction
   II. Discussion
   III. Conclusion
   IV. Literature
4) Group presentation

Assignment Method

1. Conducted in groups using the Small Group Discussion (SGD) learning method.

Form and Format of Output

a. Object of Cultivation: selection and mating
b. Form of Output: Paper

Indicators, Criteria and Assessment Weight

Indicators:

1. Systematics: 10%
2. Accuracy of analysis: 25%
3. Depth of material: 30%
4. Novelty and reputation of library materials: 10%
5. Team cohesiveness: 10%
6. Mastery of the material: 15%

Implementation Schedule

2 weeks	

Other

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Reference List

1. Warwick.E.J., J. Maria Astuti and H. Hardjosubroto. 1983. Pemuliaan Ternak, Gajah Mada University Press, Yogyakarta.
2. Pane, I. 1986. Pemuliabiakan Ternak Sapi. Gramedia Jakarta.
3. Lasley, J.F. 1963. Genetics of Livestock Improvement. Prentice Hall, Inc, Engelwood. Cliffs, New Yersey
4. Falconer, D.S., 1981. Introduction to Quantitative Genetics. 2nd Ed. Longman. United Kingdom.
5. Legates, J.E., dan E. J. Warwick. 1990. Breeding and Improvement of Farm Animals. 8 Ed. McGraw-Hill Publishing Company, Singapore

DEFINITION OF 1 CREDIT IN THE FORM OF LEARNING				Time
A	Lecture, Reception, Tutorial			
	Face to Face	Structured Assignment	Independent Learning	
	50 minutes/week/semester	60 minutes/week/semester	60 minutes/week/semester	2,83
B	Seminars or other similar forms of learning			
	Face to face	Self-study		
	100 minutes/week/semester	70 minutes/week/semester		2,83
C	Practicum, studio practice, workshop practice, field practice, research, community service, and/or other equivalent forms of learning			
	170 minutes/week/semester			2,83

No	Metode Pembelajaran Mahasiswa	Kode
1	Small Group Discussion	SGD
2	Role-Play & Simulation	RPS
3	Discovery Learning	DL
4	Self-Directed Learning	SDL
5	Cooperative Learning	CoL
6	Collaborative Learning	CbL
7	Contextual Learning	CtL
8	Project Based Learning	PjBL
9	Problem Based Learning & Inquiry	PBL
10	Atau metode pembelajaran lain, yang dapat secara efektif memfasilitasi pemenuhan capaian pembelajaran lulusan.	

Appendix Rubric I011240001| Student Presentation Assessment

https://drive.google.com/drive/u/0/folders/1D7G-Y8uFtSaBOjbdNZPJW19m-_sEbj_D

Rubric Appendix I011240002| Practicum/Fieldwork Assessment

https://drive.google.com/file/d/18XkwdIIpujSLRuaz9HlephJWGmKU6rXD/view?usp=sharing

Appendix Rubric I011240003| Paper assessment

https://drive.google.com/file/d/1PFo5_f-uXO6NQsF-rG8p6PMZUDoUI6Q9/view?usp=sharing