SEMESTER COURSE PLAN (SCP)

NON-RUMINANT NUTRITION
(23I01121602)

TEACHING TEAM :

Dr. A. Mujnisa, S.Pt., MP.
197303271997022001

Prof.Dr. Ir. Sri Purwanti, S.Pt., M.Si., IPU, ASEAN Eng
197511012003122002

Dr.Ir. Anie Asriany, M.Si.
196710161994022001

Dr. Fahrul Irawan, S.Pt., M.Si., Ph.D
198803032024061001

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

BACHELOR PROGRAMME IN ANIMAL HUSBANDRY
FACULTY OF ANIMAL SCIENCE
HASANUDDIN UNIVERSITY

Vision

Vision of the study program :
Becoming an international standard in livestock education provider based on the Indonesian Maritime Continent

Vision Strategic

In accordance with the vision, mission, and objectives that have been set, the Animal Husbandry Study Program of the Faculty of Animal Science sets the following objectives to be achieved:

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

The mission carried out in the implementation of the Bachelor of Animal Husbandry Study Program, Faculty of Animal Husbandry, Hasanuddin University is

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

Graduate Profiles

No	Profile	Description
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

Learning Outcomes imposed on the Course

ILO-5 (KU2) - 5)Able to make appropriate decisions in the context of problem solving, based on the results of data and information analysis (GS-02).

ILO-7 (KK1) - 7) 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: Able to evaluate feed ingredients for non-ruminant livestock, digestive organs and functions of digestive organs and digestive processes in non-ruminant livestock (broilers, laying hens, ducks, quail, rabbits, horses, pigs) (ILO5)

CLO 2: Able to evaluate the nutritional needs and rations of various growth phases in non-ruminant livestock (broilers, laying hens, ducks, quails, rabbits, horses, pigs) (ILO7)

Sub-CLO

Sub CLO-1: Students are able to evaluate non-ruminant feed ingredients (CLO-1)

Sub-CLO 2: Students are able to evaluate the digestive organs and functions of nonruminant digestive

organs (CLO 1) Sub CLO-3: Students are able to evaluate the process of digestion in nonruminant livestock

(CLO-1)

Sub-CLO 4: Students are able to evaluate the nutritional needs and rations of broilers (CLO-2) Sub CLO-5:

Students are able to evaluate the nutritional needs and rations of ducks (CLO-2)

Sub-CLO 6: Students are able to evaluate the nutritional needs and rations of laying hens (CLO-2) Sub-CLO 7:

Students are able to evaluate the nutritional needs and rations of quail (CLO-2) Sub CLO-8: Students are able to

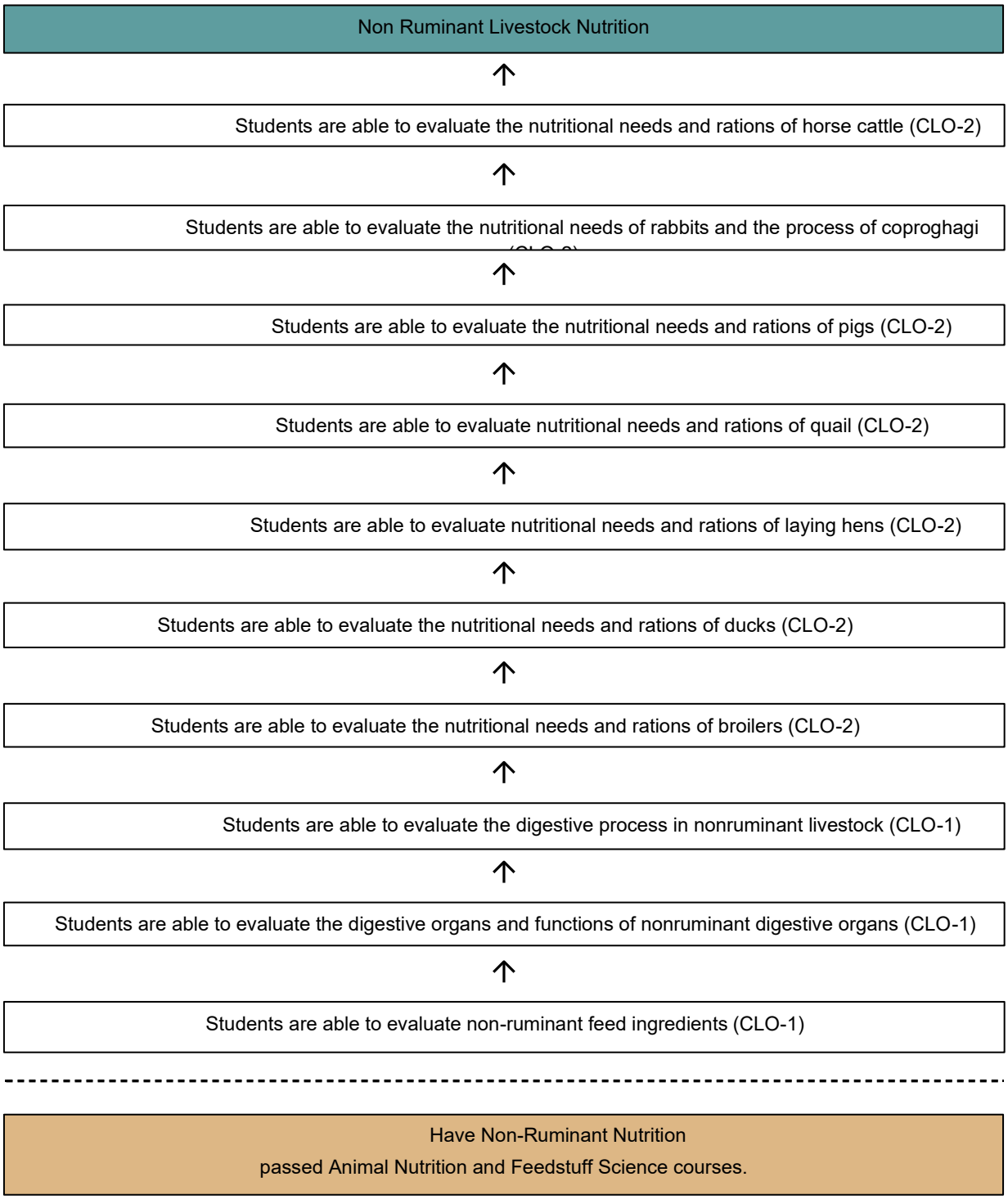
evaluate the nutritional needs and rations of pigs (CLO-2)

Sub-CLO 9: Students are able to evaluate the nutritional needs of rabbits and the process of coproghagi

(CLO-2) Sub-CLO 10: Students are able to evaluate the nutritional needs and rations of horse cattle

(CLO-2)

Learning Analysis



HASANUDDIN UNIVERSITY
FACULTY OF ANIMAL SCIENCE
BACHELOR PROGRAMME IN ANIMAL HUSBANDRY
SEMESTER COURSE PLAN

Course	Code	Course Group	Credits	Semester	Date of Preparation
Non-Ruminant Nutrition	23I01121602	Nutrition	2	4	February 13, 2025
Authority	**Developer Lecturer**	**Course Coordinator**	**Head of study Program**		
	Dr. A. Mujnisa, S.Pt., MP, Prof.Dr. Ir. Sri Purwanti, S.Pt., M.Si., IPU, ASEAN Eng, Dr.Ir. Anie Asriany, M.Si., Fahrul Irawan, S.Pt., M.Si., Ph.D.	Dr. A. Mujnisa, S.Pt., MP.	Dr. Agr. Ir. Renny Fatmyah Utamy, S. Pt., M. Agr., IPM		

Course Learning Outcomes	**ILOs that are imposed on the course**	
	ILO-5	Able to make appropriate decisions in the context of problem solving, based on the results of data and information analysis.
	ILO-7	Able to apply animal science and technology that is oriented towards increasing production, efficiency, quality and sustainability.
	ILO-	
	ILO⇒ Course Learning Outcomes (CLO)	
	Upon completion of this course, it is expected that:	
	ILO-5	CLO-1: Able to evaluate feed ingredients for non-ruminant livestock, digestive organs and functions of digestive organs and digestive processes in non-ruminant livestock (broilers, laying hens, ducks, quail, rabbits, horses, pigs).
	ILO-7	SLO-2: Able to Evaluate Nutritional Needs and Rations for Various Growth Phases in Non-Ruminant Livestock (Broilers, Laying Hens, Ducks, Quails, Rabbits, Horses, Pigs)
	CLO⇒ Sub-CLOs	

	CLO 1	**SUB-CLO-1:** Students are able to evaluate non-ruminant feed ingredients
		Sub-CLO 2: Students are able to evaluate the digestive organs and functions of nonruminant digestive organs
		SUB-CLO-3: Students are able to evaluate the digestive process in non-ruminant livestock
	CLO-2	**SUB-CLO-4:** Students are able to evaluate the nutritional needs and rations of broilers
		SUB-CLO 5: Students are able to evaluate the nutritional needs and rations of ducks
		SUB-CLO 6: Students are able to evaluate the nutritional needs and rations of laying hens
		SUB-CLO-7: Students are able to evaluate the nutritional needs and rations of quail
		SUB-CLO 8: Students are able to evaluate the nutritional needs and rations of pig livestock
		SUB-CLO-9: Students are able to evaluate the nutritional needs of rabbits and the process of coproghagi
		SUB-CLO 10: Students Able to Evaluate the Nutritional Needs and Rations of Horse Livestock

Correlation between ILOs/CLOs to Sub-CLOs

ILOs that are imposed on the course	**CLO**	**SUB- CLO**	**Form Assessment+**				**Weight**	**Value**	**Student Score**
			Formative	**Summative**					
				Individual Paper Assignment	**Quiz**	**Group paper Assignment**			
SLO-5	**CLO-1**	**SUB-CLO-1**	**Attendance and Activeness in class**	**7,5**	**0**	**0**	7,5		
SLO-5	**CLO-1**	**SUB-CLO-2**	**Attendance and Activeness in class**	**7,5**	**5**	**0**	12,5		
SLO-5	**CLO-1**	**SUB-CLO-3**	**Attendance and Activeness in class**	**7,5**	**5**	**0**	12,5		
SLO-7	**CLO-2**	**SUB-CLO-4**	**Attendance and Activeness in class**	**0**	**5**	**0**	12,5		
SLO-7	**CLO-2**	**SUB-CLO-5**	**Attendance and Activeness in class**	**0**	**0**	**7,5**	7,5		

SLO-7	**CLO-2**	**SUB-CLO-6**	**Attendance and Activeness in class**	**7,5**	**5**	**0**	5		
SLO-7	**CLO-2**	**SUB-CLO-7**	**Attendance and Activeness in class**	**0**	**5**	**0**	12,5		
SLO-7	**CLO-2**	**SUB-CLO-8**	**Attendance and Activeness in class**	**7,5**	**5**	**0**	5		
SLO-7	**CLO-2**	**SUB-CLO-9**	**Attendance and Activeness in class**	**7,5**	**5**	**0**	12,5		
SLO-7	**CLO-2**	**SUB-CLO-10**	**Attendance and Activeness in class**	**7,5**	**5**	**0**	12,5		
			52,5		40	7,5	100		

Course Description	The Nonruminant Animal Nutrition course discusses various types of feed ingredients for nonruminant livestock, Digestive organs and digestive processes that occur in nonruminant livestock, as well as the nutritional needs and rations of nonruminant livestock (broilers, laying hens, ducks, quail, rabbits, horses and pigs) at various growth phases and production phases
Learning Materials / Subject Matter	1. Non-ruminant animal feed ingredients 2. Digestive organs of nonruminant livestock and their functions 3. Digestive process in nonruminant livestock 4. Nutritional Requirements and Rations for Broilers 5. Nutrition and Ration Needs of Ducks 6. Nutrition and Ration Needs of Laying Hens 7. Quail Nutrition and Ration Needs 8. Nutrition and Ration Needs of Pig Livestock 9. Rabbit Nutrition Needs and Coproghagi Process 10. Nutrient Requirements and Rations for Horses
Reference	**Key Reference**
	1. McDonald, Edwards, Greenhalg, Morgan, 2010. Animal Nutrition. 7th Ed. Longman Scientific & Technical. John Wiley and Sons, Inc, New York. . 2. Lassiter, J.W. and H.M. Edwards, Jr. 1982. Animal Nutrition. Restong Publishing Company, Virginia. 3. Scientific Journals, such as Journal of Animal Science, Asian Australasian Journal of Animal Science, Animal Feed Science and Technology. 4. Evans, M.E. 1985. Nutrient Composition of Feedstuffs for Pigs and Poultry. Queensland Department of Primary Industries, Pub. No Q15001, Brisbane. 5. Agustina, L., and S. Purwanti. 2012. Poultry Nutrition. House of Knowledge, Yogyakarta. 6. Marsudidan Saparinto.2012.Quail. Penebar Swadaya.Jakarta. 7. Revelation. J. 1997. Poultry Nutrition. Gajah Mada University Press. Yogyakarta
	Additional Reference
	SNI of feed ingredients, SNI of nutritional requirements for broilers, layers, ducks, quail, rabbits, pigs and horses NRC for Poultry, NRC for Pigs, NRC for Horse
Teaching Team	Dr. A. Mujnisa, S.Pt., MP, Prof.Dr. Ir. Sri Purwanti, S.Pt., M.Si., IPU, ASEAN Eng, Dr.Ir. Anie Asriany, M.Si., Fahrul Irawan, S.Pt., M.Si., Ph.D.
Course requirements	Animal Nutrition Science, Feed Ingredient Science

Meening To	Sub CLO (End ability of each learning stage)	Assesment		Forms and Methods of Learning [time estimate]		Content	Weight of Assesment (%)
		Indicator	Technique & Criteria	Offline	Online		
1	2	3	4	5	6	7	8
1	Students are able to evaluate non-ruminant feed ingredients (CLO-1)	Formative: • Attendance Activeness • In Class Summative: • Individual Assignment	Formative Criteria: Attendance and Activeness in class Summative Criteria: Individual Paper Assignment (7.5) Assessment Technique: Non-test	**Forms: Other methods - 1 x 2 x 50'**		-Learning contract -Objectives, activities, scope of learning materials for one semester - Types of non-ruminant animal feed ingredients	7,5
2	Students are able to evaluate the digestive organs and functions of nonruminant digestive organs (CLO-1)	Formative: • Attendance, class • participation, Sumative: • Individual assignment • quiz	Formative Criteria: Attendance and Activeness in class Sumative Criteria: Individual Paper Assignment (7.5) Quiz (5) Assessment Techniques: Test and Non- Test	Forms: Other methods - 1 x 2 x 50'		-nonruminant digestive organs (chicken, rabbit, horse and pig) -Functions of nonruminant digestive organs (chicken, rabbit, horse and pig)	12,5
3-4	Students are able to evaluate the digestive process in	Formative: • Attendance	Formative Criteria: Attendance and Activeness in class Sumative Criteria:	Forms: Other methods -		- Digestive processes in nonruminant livestock, (chicken, rabbit, horse and pig)	12.5

	nonruminant livestock (CLO-1)	• Activeness in class Summative: • Individual • assignment quiz	Individual Paper Assignment (7.5) Quiz (5) Assessment Techniques: Test and Non- Test	1 x 2 x 50'			
5	Students are able to evaluate the nutritional needs and rations of broilers (CLO-2)	Formative: • Attendance, • Activeness in class, Sumative:	Formative Criteria: Attendance and Activeness in class Sumative Criteria: Quiz (5) Individual Paper Assignment (7.5) Assessment Techniques: Test and Non- Test	Forms: Other methods - 1 x 2 x 50'		Nutritional requirements of starter phase broilers - Nutritional requirements of finisher phase broilers - DevSLOping starter and finisher phase broiler rations	12,5
6-7	Students are able to evaluate nutritional needs and rations in ducks (CLO-2)	Formative: • Attendance, • class participation, Sumative: • Group assignment	Formative Criteria: Attendance and Activeness in class Sumative Criteria: Group Paper Assignment (7.5) Assessment Technique: Non-test	Forms: Other methods - 1 x 2 x 50'		- Nutritional requirements of broiler ducks and laying ducks - Rations for broiler ducks and laying ducks	7,5
8	Students are able to evaluate the nutritional needs and ration of laying hens (CLO-2)	Formative: • Attendance, • Activeness in class, Sumative:	Formative Criteria: Attendance and Activeness in class Sumative Criteria: Quiz (5) Assessment Technique: Test	Forms: Other methods - 1 x 2 x 50'		-Nutritional requirements in starter phase laying hens - Nutritional requirements in grower and layer phase laying hens - Starter, grower	5

		• Quiz				and layer phase laying hen rations	
9-10	Students are able to evaluate the nutritional needs and rations of quails (CLO-2)	Formative: • Attendance • Activeness in class Summative: • Individual • Assignment Quiz	Test Formative Criteria: Attendance and Activeness in class Summative Criteria: Quiz (5) Individual Paper Assignment (7.5) Assessment Techniques: Test and Non	Forms: Other methods - 1 x 2 x 50'		-Nutritional requirements of starter phase quail -Nutritional requirements of grower phase quail -Nutritional requirements of layer phase quail - DevSLOping quail rations	12,5
11-12	Students are able to evaluate the nutritional needs and rations of pigs (CLO-2)	Formative: • Attendance, • Activeness in class, Summative: • Quiz	Formative Criteria: Attendance and Activeness in class Sumative Criteria Quiz (5) Assessment Technique: Test	Other Forms: Other methods - 2 X 50 Minutes		- Nutritional requirements of pigs - DevSLOping pig rations for different phases of growth (starter, grower, finisher), and lactation	5
13-14	Students are able to evaluate the nutritional needs of rabbits and the process of coproghagi (CLO-2)	Formative: • Attendance, • Activeness in class Summative: • Individual Assignment • Quiz	Formative Criteria: Attendance, Activeness in class Summative Criteria: Quiz (5) Individual Paper Assignment (7.5) Assessment Techniques: Test and Non- Test	Other Forms: Other methods - 1 x 2 X 50		- Nutritional requirements of rabbits in various growth phases - DevSLOping rabbit rations - The process of coprophagi process in rabbits	12,5
15-18	Students are able to evaluate the	Formative:	Formative Criteria: Attendance and Activeness in class	Other Forms:		- Nutritional requirements of horses	12,5

	nutritional needs and rations of horse cattle (CLO-2)	• Attendance, • class participation, Sumative: • Individual • Assignment • Quiz	Sumative Criteria: Quiz (5) Individual Paper Assignment (7.5) Assessment Techniques: Test and Non Test	Other methods - 1 x 2 x 50		- DevSLOping horse rations	

Matrix ILO, CLO, and Assessment Method

ILO / CLO	CLO-1	CLO-2
ILO-5 (KU2)	Individual Paper Assignment (Weight 7.5%) Individual Paper Assignment (Weight 7.5%) Quiz (Weight 5%) Individual Paper Assignment (Weight 7.5%) Quiz (Weight 5%)	
ILO-7 (KK1)		Quiz (Weight 5%) Individual Paper Assignment (Weight 7.5%) Group Paper Assignment (Weight 7.5%) Quiz (Weight 5%) Quiz (Weight 5%) Individual Paper Assignment (Weight 7.5%) Quiz (Weight 5%) Quiz (Weight 5%) Individual Paper Assignment (Weight 7.5%) Quiz (Weight 5%) Individual Paper Assignment (Weight 7.5%)

Evaluation Type and Assessment Weight

Type	Assessment Weight
Individual Paper Assignment	52,5
Quiz	40
Group Paper Assignment	7,5
Total	100

Assessment and Evaluation of Student Achievement of CLO

ILOs imposed on the Course	CLO	SUB CLO	Form of Assessment*				Weight	Value	Student Score
			Formative	Sumative					
				Individual Paper Assignment	Quiz	Group Paper Assignment			
ILO-5	CLO-1	SUB-CLO-1	Attendance and Activeness in class	7,5	0	0	7,5		
ILO-5	CLO-1	SUB-CLO-2	Attendance and Activeness in class	7,5	5	0	12,5		
ILO-5	CLO-1	SUB-CLO-3	Attendance and Activeness in class	7,5	5	0	12,5		
ILO-7	CLO-2	SUB-CLO-4	Attendance and Activeness in class	7,5	5	0	12,5		
ILO-7	CLO-2	SUB-CLO-5	Attendance and Activeness in class	0	0	7,5	7,5		
ILO-7	CLO-2	SUB-CLO-6	Attendance and Activeness in class	0	5	0	5		
ILO-7	CLO-2	SUB-CLO-7	Attendance and Activeness in class	7,5	0	0	12,5		
ILO-7	CLO-2	SUB-CLO-8	Attendance and Activeness in class	0	5	0	5		
ILO-7	CLO-2	SUB-CLO-9	Attendance and Activeness in class	7,5	5	0	12,5		
ILO-7	CLO-2	SUB-CLO-10	Attendance and Activeness in class	7,5	5	0	12,5		
				52,5	40	7,5	100		

	HASANUDDIN UNIVERSITY **FACULTY OF ANIMAL SCIENCE** **BACHELOR PROGRAMME IN ANIMAL HUSBANDRY**				
STUDENT STRUCTURED ASSIGNMENT PLAN					
Course	Non-Ruminant Nutrition				
Code	23I01121602	**Credits**	2	**Semester**	4 (Four)
Developer Lecturer	Dr. A. Mujnisa, S.Pt., MP.				

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

Task Title

Types of nonruminant animal feed ingredients, nonruminant digestive organs (Chicken, Rabbit, Horse, Pig)

Course Learning Outcomes

Sub-CLO-2: Students are able to evaluate the digestive organs and functions of nonruminant digestive organs according to planned specifications (CLO-2)

Task Description

The student's task is a group assignment to make a Paper Task 'Functions of nonruminant digestive organs'. The preparation of the paper follows the following procedure:

1)Each group chooses 1 of the sub-topics: nonruminant digestive organs (chicken, rabbit, horse, and pig) 1 group.

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)Write a paper with the following systematics:

I. Introduction

II. Discussion

III. Conclusion

IV. Literature

4)Group presentation

4**Assignment Method**

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

Form and Format of Output

a. Objective: Digestive Organs and Functions of Non-Ruminant Digestive Organs

b. Form of Output: Paper

Indicators, Criteria and Assessment Weight

Indicators:

1. Systematicity: 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

1. 2 weeks	

Other

-

Reference List

1. Lassiter, J.W. and H.M. Edwards, Jr. 1982. Animal Nutrition. Restong Publishing Company, Virginia.
2. Scientific Journals, such as Journal of Animal Science, Asian Australasian Journal of Animal Science, Animal Feed Science and Technology.
3. Evans, M.E. 1985. Nutrient Composition of Feedstuffs for Pigs and Poultry. Queensland Department of Primary Industries, Pub. No Q15001, Brisbane.
4. Agustina, L., and S. Purwanti. 2012. Poultry Nutrition. House of Knowledge, Yogyakarta.
5. Marsudidan Saparinto.2012.Quail. Penebar Swadaya.Jakarta.
6. Revelation. J. 1997. Poultry Nutrition. Gajah Mada University Press. Yogyakarta

DEFINITION OF 1 CREDIT IN LEARNING FORM				hours
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		Independent Learning	
	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	Student Learning Methods	code
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	Or other learning methods, which can effectively facilitate the fulfilment of graduate learning outcomes.	