UNIVERSITAS SUMATERA UTARA (USU)
FACULTY OF AGRICULTURE
ANIMAL SCIENCE STUDY PROGRAM

Documen Code
(to be follow

SEMESTER LEARNING PLAN (RPS)

COURSE (MK)	CODE	Course Group	WEIGHT (credits)	SEMESTER	Date of Prepara
Anatomy and Physiology of Livestock	PTN1203	Exact	3	II	February 12, 20

AUTHORIZATION/ATTESTATION	RPS Developer Lecturer	Approved Head of Study Program	Knowing Chairperson of LINKUP USU
	Ir. Tati Vidiana Sari, S.Pt., MP. IPM. Fuad Hasan, S.Pt., M.Si. Dian Tria Fatmila, S.Pt., M.Si.	Dr. Ir. Ma'ruf Tafsin, M.Si., IPM.	Prof. Dr. Dwi Suryanto M.Sc.

Learning Outcomes	LO-Study Program Charged to Course	
	LO01	Able to apply logical, critical, systematic and innovative thinking through the approach and implementation of animal sci and technology by applying the character of BINTANG.
	LO03	Able to identify, formulate, and find solutions to problems related to the field of animal husbandry

Course Learning Outcomes (CLO)	CLO Weight
CLO0110: Able to apply logical and critical thinking about the anatomy and physiology of all systems in the body of poultry, non-ruminant and ruminant livestock.	50.0%
CLO0301: Able to explain the identification of anatomical and physiological system problems of all systems in the body of poultry, non-ruminant and ruminant livestock.	50.0%

End Capability of Each Learning Stage (Sub-CLO)	
Sub-CLO1	After attending this lecture, students will be able to explain the anatomy and physiology of the digestive system in rumina and non-ruminants.
Sub-CLO2	After attending this lecture, students will be able to explain the basis of metabolism.
Sub-CLO3	After attending this lecture, students will be able to explain the circulation system.
Sub-CLO4	After attending this lecture, students will be able to explain the respiration system in mammals and poultry.
Sub-CLO5	After attending this lecture, students will be able to explain the anatomy and physiology of the nervous system.
Sub-CLO6	After attending this lecture, students will be able to explain the anatomy and physiology of muscle tissue.

	Sub-CLO7	After attending this lecture, students will be able to explain the anatomy and physiology of the urinary system.
	Sub-CLO8	After attending this lecture, students will be able to explain endocrine glands and hormones.
	Sub-CLO9	After attending this lecture, students will be able to explain the anatomy and physiology of the reproductive system and lactation.
	Sub-CLO10	After attending this lecture, students will be able to explain the anatomy and physiology of the regulatory system.
	Sub-CLO11	After attending this lecture, students will be able to explain the anatomy and physiology of growth.
	Sub-CLO12	After attending this lecture, students will be able to explain the anatomy and physiology of sensory organs.

Correlation of CLO with Sub-CLO

	Sub-CLO1	Sub-CLO2	Sub-CLO3	Sub-CLO4	Sub-CLO5	Sub-CLO6	Sub-CLO7	Sub-CLO8	Sub-CLO9	Sub-CLO 10	Sub-CLO 11	Sub-CLO 12
CLO0110	√	√	√	√	√	√	√	√	√	√	√	√
CLO0301	√	√	√	√	√	√	√	√	√	√	√	√

Brief Course Description

After completing the Anatomy and Physiology of Livestock course, second semester students, Animal Science Study Program, Facul Agriculture, Universitas Sumatera Utara are expected to be able to explain the understanding of the anatomy of the animal body physiological processes that occur in the animal body. This course is conducted with the Indonesian language of instruction, and face-to-fa many as 14 meetings consisting of material exposure, case method, project-based, quizzes, assignments, and practicum both offline and onli

Study Material:

Learning Materials

BK02 Basic Animal Science
BK03 Animal Production Science

1. Anatomy and physiology of livestock digestive organs
2. Protein, carbohydrate, and fat metabolism
3. Anatomy and physiology of blood
4. Anatomy of the organs of respiration
5. Neural networks, nerve impulses, and types of reflexes
6. Muscle tissue anatomy, muscle types, and muscle contraction
7. Anatomy of urinary organs, mechanism of kidney action and acid-base balance
8. Anatomy of endocrine gland organs and hormones
9. Anatomy and developmental process of genital organs, spermatogenesis, oogenesis, and reproductive cycle
10. Anatomy of the mammary gland, and mechanisms of lactation

	11. Lactation and reproductive organs 12. Anatomy of thermoregulatory organs and regulatory systems 13. Growth physiology of monogastric and polygastric livestock, and growth abnormalities 14. Anatomy of sensory organs and sensory sensor mechanisms
References	**Main:** 1. Akers, R. M., and D. M. Denbow. 2013. Anatomy and Physiology of Domestic Animals 2nd ed. Hokoben: Wiley-Blackwell 2. Fradson, R. D., W. L. Wilke, and A. D. Fails. 2009. Anatomy and Physiology of Farm Animals 7th ed. Hokoben: Wiley-Blackwell 3. Nangoy, F. J. dan V. R. W. 2022. Rawung Anatomi dan Fisiologi Ternak. Bandung: Patra Media Grafindo 4. Wahyuni, S. dan Gholib. 2021. Anatomi Veteriner I: Anatomi dan Fisiologi Organ Reproduksi Jantan dan Ranggah Muncak (Cervi Aceh: Syiah Kuala University Press 5. Wardhana, A. W. 2017. Anatomi Unggas. Malang: UB Press
	Additional: 1. Tisch, D. 2005. Animal Feeds, Feeding and Nutrition, and Ration Evaluation CD-ROM. New York City. Delmar Cengage Learning 2. Wahjuni, S. 2013. Metabolisme Biokimia. Bali: Udayana Univeristy Press 3. Febrina, D., R. Pazla, dan N. I. Sari. 2023. Fisiologi Perncernaan Ruminansia: Indramayu: Adanu Abimata 4. Wu, G. 2022. Recent Advances in Animal Nutrition and Metabolism. Berlin: Springer Publishing 5. Senger, P. L. 2012. Pathways to Pregnancy & Parturition 3rd ed. Washington: Current Conceptions, Inc. 6. Yekti, A. P. A., T. Susilawati, M. N. Ihsan, S. Wahjuningsih. 2017. Fisiologi Reproduksi Ternak: Dasar Manajemen Reprod Malang: UB Press 7. Practicum Handbook 8. National and International Journals
Lecturers	1. Ir. Tati Vidiana Sari, S.Pt., MP. IPM. 2. Fuad Hasan, S.Pt., M.Si. 3. Dian Tria Fatmila, S.Pt., M.Si.
Conditional Subjects	-

	End ability of each learning stage (Sub-CLO)	**Assessment**		**Form of Learning; Learning Methods; Student Assignment; [Estimated Time]**		**Study Material (Learning Material)**	**Assess t Wei (%**
		Indicator	**Criteria and Techniques**				
(1)	**(2)**	**(3)**	**(4)**	**Asynchronous (5)**	**Synchronous (6)**	**(7)**	**(8**

1	Sub-CLO 1: After attending this lecture, students will be able to explain the anatomy and physiology of the digestive system in ruminants and non-ruminants.	a. Accuracy in explaining the anatomy of the digestive organs of monogastric and polygastric livestock b. Accuracy in explaining the physiology of the digestive process in ruminants and non-ruminants	**Criteria:** Use essay and multiple choice assessment rubrics **Techniques:** *Test*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** a. Attendance b. Download and read the Syllabus (RPS), Learning Implementation Plan (SAP), Course Agreement, and Learning Materials **Moda (*Learning Management System*):** kelas.usu.ac.id	Face-to-Face (TM) (1 week x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book	**Subject matter:** a. Anatomy of digestive organs of monogastric and polygastric livestock b. Physiology of the digestive process in ruminants and non-ruminant s	This CLO be *asse* duri UTS (2 (CLO & CLO0
2	Sub-CLO 2: After attending this lecture, students will be able to explain the basis of metabolism.	a. Accuracy in explaining protein metabolism b. Accuracy in explaining carbohydrate metabolism	**Criteria:** Use presentation and paper assessment rubrics **Techniques:** *Non-test:* *Case Method*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning*	Face-to-Face (TM) (2 weeks x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:**	**Subject matter:** a. Protein metabolism b. Carbohydrate metabolism c. Fat metabolism	CM 10% (0110 CLO0

		c. Accuracy in explaining fat metabolism		**Activities:** *a. Recording attendance* *b. Completing assignment* ***Case Method 1:*** a. Divide the group evenly (lecturer divides) b. Make a paper on protein, carbohydrate, and fat metabolism for a maximum of 15 pages from table of contents to bibliography TNR font size 12 spacing 1.5 sent in pdf form. c. Group presentation **Moda (*Learning Management System*):** class.usu.ac.id	a. Online/offline learning b. Class discussion c. Take notes on learning materials d. Presentation **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book	
3	Sub-CLO 3: After attending this lecture, students will be	a. Accuracy in explaining the anatomy of circulatory organs	**Criteria:** Use essay and multiple choice assessment rubrics	Independent Activities (KM) + Structured Assignments (PT) (1	Face-to-Face (TM) (2 weeks x 2 credits x 50 minutes) **Learning Methods:**	**Subject matter:** a. Anatomy of the circulatory organs	This CLO be *asse* duri UTS (2

	able to explain the circulation system.	b. Accuracy in explaining the types of circulation	**Techniques:** *Test*	week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** ***a.*** *Recording attendance* ***b.*** *Completing quiz* ***c.*** *Practicum* ***Quiz 1:*** Quiz to measure students' understanding of the circulatory system **Moda (*Learning Management System*):** class.usu.ac.id	a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials d. Presentation **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book	b. Types of circulation	(CLO & CLO0
4	Sub-CLO 4: After attending this lecture, students will be able to explain the respiration system in mammals and poultry.	a. Accuracy in explaining the anatomy of the organs of respiration b. Accuracy in explaining the process of respiration in mammalian and poultry livestock	**Criteria:** Use presentation and paper assessment rubrics **Techniques:** *Non-test: Assignment*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:**	Face-to-Face (TM) (2 weeks x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion	**Subject matter:** a. Anatomy of the organs of respiration b. Respiration process in mammalian and avian livestock	Assign t 1 : (CLO & CLO0

				a. Recording attendance *b. Completing assignment* *c. Practicum* **Assignment 1:** Make a resume on anatomy and physiology (A4; TNR 12 pt; maximum 5 pages), collected in pdf form **Moda (*Learning Management System*):** class.usu.ac.id	c. Take notes on learning materials **Media:** a. Slides/ ppt b. Zoom meeting / LCD Text book	
5	Sub-CLO 5: After attending this lecture, students will be able to explain the anatomy and physiology of the nervous system.	a. Accuracy in explaining neural networks b. Accuracy in explaining nerve impulses c. Accuracy in explaining the kinds of reflexes	**Criteria:** Use presentation and paper assessment rubrics **Techniques:** *Non-test:* *Case method*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** *a. Recording attendance* *b. Completing assignment* *c. Practicum* ***Case Method 2:***	Face-to-Face (TM) (2 weeks x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials d. Presentation **Media:**	**Subject matter:** a. Neural network b. Nerve impulses **c.** Types of reflexes	CM 10% (0110 CLO0

				a. Divide the group evenly (lecturer divides) b. Make a paper on the anatomy and physiology of the nervous system for a maximum of 15 pages from the table of contents to the bibliography TNR font size 12 spacing 1.5 sent in pdf form. c. Group presentation **Moda (*Learning Management System*):** class.usu.ac.id	a. Slides/ ppt b. Zoom meeting / LCD c. Text book	
6	Sub-CLO 6: After attending this lecture, students will be able to explain the anatomy and physiology of muscle tissue.	a. Accuracy in explaining the anatomy of muscle tissue b. Accuracy in explaining the various types of muscles c. Accuracy in explaining the types of	**Criteria:** Use presentation and paper assessment rubrics **Techniques:** *Non-test: Problem based learning*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:**	Face-to-Face (TM) (2 weeks x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion	**Subject matter:** a. Anatomy of muscle tissue b. Different types of muscles c. Types of muscle contractions	PBL 10% (0110 CLO0

		muscle contractions		*a. Recording attendance* *b. Completing assignment* *c. Practicum* ***Problem-based Learning 1:*** a. Divide the group evenly (lecturer divides) b. Make a paper on anatomy and physiology of muscle tissue maximum 15 pages from table of contents to bibliography TNR font size 12 spacing 1.5 sent in pdf form c. Group presentation **Moda (*Learning Management System*):** class.usu.ac.id	c. Take notes on learning materials d. Presentation **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book	
7	Sub-CLO 7: After attending this lecture, students will be	a. Accuracy in explaining the anatomy of urinary organs	**Criteria:** Use essay and multiple choice assessment rubrics	Independent Activities (KM) + Structured Assignments (PT) (1	Face-to-Face (TM) (1 week x 2 credits x 50 minutes) **Learning Methods:** a. Lecture	**Subject matter:** a. Anatomy of urinary organs	This CLO be *asse* duri UTS (2

	able to explain the anatomy and physiology of the urinary system.	b. Accuracy in explaining the mechanism of kidney work c. Accuracy in explaining acid-base balance	**Techniques:** *Test*	week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** ***a.*** *Recording attendance* **Moda (*Learning Management System*):** class.usu.ac.id	b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials **Media:** a. Slides/ ppt b. Zoom meeting / LCD Text book	b. Mechanism of kidney action c. Acid-base balance	(CLO & CLO0
8	MID SEMESTER EXAMINATION (UTS)						20%
9	Sub-CLO 8: After attending this lecture, students will be able to explain endocrine glands and hormones.	a. Accuracy in explaining the anatomy of endocrine gland organs Accuracy in explaining the kinds of hormones produced by endocrine gland organs	**Criteria:** Using an essay scoring rubric **Techniques:** *Test:* *Quiz*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** ***a.*** *Recording attendance* ***b.*** *Completing quiz* ***Quiz 1:*** Quiz to measure students'	Face-to-Face (TM) (1 week x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials **Media:** a. Slides/ ppt	**Subject matter:** a. Anatomy of endocrine gland organs b. Hormones	Quiz 1 (CLO & CLO0

				understanding of the anatomy and physiology of the urinary system **Moda (*Learning Management System*):** class.usu.ac.id	b. Zoom meeting / LCD c. Text book		
10-12	Sub-CLO 9: After attending this lecture, students will be able to explain the anatomy and physiology of the reproductive system and lactation.	a. Accuracy in explaining the anatomy of genital organs b. Accuracy in explaining the process of genital organ development c. Accuracy in explaining spermatogenesis and oogenesis d. Accuracy in explaining the reproductive cycle e. Accuracy in explaining the anatomy of the mammary gland f. Accuracy in explaining the mechanism of lactation	**Criteria:** Use presentation and paper assessment rubrics **Techniques:** *Non-test:* *a. Problem based learning* *b. Assignment*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** *a. Recording attendance* *b. Completing assignment* *c. Practicum* ***Problem-based learning 2:*** a. Divide the group evenly (lecturer divides) b. Make a paper on the anatomy and physiology of the	Face-to-Face (TM) (1 week x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book	**Subject matter:** a. Anatomy of genitalia b. Development al process of genitalia c. Spermatogen osis and oogenesis d. Reproductive cycle e. Anatomy of the mammary gland f. Mechanism of lactation g. Lactation and reproductive organs	PBL 10% This CLO be *asse* duri UA (20% (CL 0110 CLO0

		g. Accuracy in explaining lactation and reproductive organs		lactation system in dairy cattle for a maximum of 15 pages from the table of contents to the bibliography TNR font size 12 spacing 1.5 sent in pdf form. c. Group presentation **Assignment 2:** Make a resume on the process of genitalia development (A4; TNR 12 pt; maximum 5 pages), collected in pdf form **Moda (*Learning Management System*):** class.usu.ac.id			
13	Sub-CLO 10: After attending this lecture, students will be able to explain the anatomy and physiology of the regulatory system.	a. Accuracy in explaining the anatomy of thermoregulatory organs b. Accuracy in explaining the regulatory system	**Criteria:** Using essay and multiple choice assessment rubrics **Techniques:** *Test*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning*	Face-to-Face (TM) (1 week x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:**	**Subject matter:** a. Anatomy of thermoregulatory organs b. Regulatory system	This CLO be *asse* duri UA (20% (CLO & CLO0

				Activities: *a. Recording attendance* **Moda (*Learning Management System*):** class.usu.ac.id	a. Online/offline learning b. Class discussion c. Take notes on learning materials **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book		
14	Sub-CLO 11: After attending this lecture, students will be able to explain the anatomy and physiology of growth.	a. Accuracy in explaining the growth physiology of monogastric and polygastric livestock b. Accuracy in explaining growth abnormalities	**Criteria:** Use essay and multiple choice assessment rubrics **Techniques:** *Test*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** *a. Recording attendance* *b. Practicum* ***Problem-based-learning 3:*** a. Make a practicum report and interpret the results of the practicum	Face-to-Face (TM) (2 weeks x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book	**Subject matter:** a. Growth physiology of monogastric and polygastric livestock b. Growth abnormalities	PBL 10% (0110 CLO0

				Moda (*Learning Management System*): class.usu.ac.id			
15	Sub-CLO 12: After attending this lecture, students will be able to explain the anatomy and physiology of sensory organs.	a. Accuracy in explaining the anatomy of sensing organs b. Accuracy in explaining the sensory sensor mechanism	**Criteria:** Use essay and multiple choice assessment rubrics **Techniques:** *Test*	Independent Activities (KM) + Structured Assignments (PT) (1 week x 3 credits x 120 minutes) **Learning Methods:** *Self-Paced Learning* **Activities:** *a. Recording attendance* *b. Completing assignment* **Moda (*Learning Management System*):** class.usu.ac.id	Face-to-Face (TM) (1 week x 2 credits x 50 minutes) **Learning Methods:** a. Lecture b. Discussion **Activities:** a. Online/offline learning b. Class discussion c. Take notes on learning materials **Media:** a. Slides/ ppt b. Zoom meeting / LCD c. Text book	**Subject matter:** a. Anatomy of the sensing organ b. Sensory sensor mechanism	This CLO be *asse* duri UA (20% (CLO & CLO0
16	FINAL SEMESTER EXAMINATION (UAS)						20%

Notes in accordance with SN Dikti Permendikbud No 3/2020:

1. Learning Outcomes of Graduates of Study Program (LO-SP) are the abilities possessed by each graduate of Study Program which are internalization of attitudes, mastery of knowledge and skills according to the level of the study program obtained through the learning process.
2. LOs imposed on courses are some of the learning outcomes of study program graduates (LO-SP) used for the formation / development of a course consisting of aspects of attitude, general skills, specific skills and knowledge.
3. Course LO (CLO) is an ability that is specifically described from the ELOs charged to the course, and is specific to the study material or learning material for the course.
4. Course Sub-CP (Sub-CLO) is an ability that is specifically described from CLO which can be measured or observed and is the final ability planned at each stage of learning, and is specific to the learning material of the course.

5. Indicators of ability assessment in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
6. Assessment criteria are benchmarks used as a measure or measure of learning achievement in assessment based on predetermined indicators. Assessment criteria are guidelines for assessors so that the assessment is consistent and unbiased. Criteria can be quantitative or qualitative.
7. Assessment techniques: test and non-test.
8. Forms of learning: Lecture, Reception, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
9. Learning Methods: *Small Group Discussion*, *Role-Play & Simulation*, *Discovery Learning*, *Self-Directed Learning*, *Cooperative Learning*, *Collaborative Learning*, *Contextual Learning*, *Project Based Learning*, and other equivalent methods.
10. Learning Materials are details or descriptions of study materials that can be presented in the form of several topics and sub-topics.
11. The assessment weight is the percentage of assessment of each sub-CLO achievement which is proportional to the difficulty level of the sub-CLO achievement, and totals 100%.
12. **PB=** Learning **Process**, PT= Structured **Assignment**, **KM=** Independent Activity.

Assessment Design:

CLO Code and Percentage	Sub-CLO Code	Form of Evaluation	Percentage (%)	Total	Evaluation Implementation
CLO0110 (50%)	Sub-CLO1	UTS	3.75	50%	Week 8
	Sub-CLO2	CM	5		Week 2
	Sub-CLO3	UTS	2.5		Week 8
	Sub-CLO4	Tasks	2.5		Week 4
	Sub-CLO5	CM	5		Week 5
	Sub-CLO6	PBL	5		Week 6
	Sub-CLO7	UTS	3.75		Week 8
	Sub-CLO8	Quiz	2.5		Week 9
	Sub-CLO9	UAS	2.5		Week 16
		PBL	5		Week 11 and 12

	Sub-CLO10	UAS	3.75		Week 16
	Sub-CLO11	PBL	5		Week 14
	Sub-CLO12	UAS	3.75		Week 16
CLO0301 (50%)	Sub-CLO1	UTS	3.75	50%	Week 8
	Sub-CLO2	CM	5		Week 2
	Sub-CLO3	UTS	2.5		Week 8
	Sub-CLO4	Tasks	2.5		Week 4
	Sub-CLO5	CM	5		Week 5
	Sub-CLO6	PBL	5		Week 6
	Sub-CLO7	UTS	3.75		Week 8
	Sub-CLO8	Quiz	2.5		Week 9
	Sub-CLO9	UAS	2.5		Week 16
		PBL	5		Week 11 and 12
	Sub-CLO10	UAS	3.75		Week 16
	Sub-CLO11	PBL	5		Week 14
	Sub-CLO12	UAS	3.75		Week 16
Total			100%	100%	

Assessment Plan:

Form of Evaluation	Sub-CLO	Assessment Instrument [Frequency]	Bill (proof)	Assessment Weight

					(%)
		Formative	**Summative**		
Quiz/question and answer	Sub-CLO3 and Sub-CLO8	Assessment rubric [2 times]	-	Quiz answers uploaded to class.usu.ac.id	5
Tasks	Sub-CLO4 and Sub-CLO9	Assessment rubric [2 times]	-	Assignments uploaded to class.usu.ac.id	5
Project-based Learning	Sub-CLO2, Sub-CLO5, Sub-CLO6, Sub-CLO9 and Sub-CLO12	-	Assessment rubric [1 times]	Logbook / worksheets / slides uploaded to kelas.usu.ac.id	30
Case Method	Sub-CLO2, Sub-CLO5, Sub-CLO6, Sub-CLO9 and Sub-CLO12		Assessment rubric [1 times]	Logbook / worksheets / slides uploaded to kelas.usu.ac.id	20
Written exam 1 (Mid-semester exam)	Sub-CLO1 and Sub-CLO7	-	Assessment rubric [1 time]	Written test result sheet	20
Written exam 2 (Final-semester exam)	Sub-CLO10 and Sub-CLO11	-	Assessment rubric [1 time]	Written exam result sheet	20
				Total	100%

Explanation:

a) Quiz 5%
   During the semester there will be 1 quizzes held in class. Quizzes will be conducted through e-learning and is scheduled in advance. The material tested is announced by the lecturer and written in the RPS.
b) 5% Assignment
   During the semester there will be 1 structured assignments. The assignment given is an effort to add insight by making a resume related to the material written in the RPS.
c) Project-based learning 30%
   During the semester there will be case methods, each student will make a paper and report on each case method in groups. Project based learning in this course is conducted 3 times. The papers that have been made will be presented by students. Students will be assessed according to their participation in the presentation and accuracy in the presentation, as well as their participation in the question and answer session when other groups present.
d) Case Method 20%
   During the semester there will be case methods, each student will make a paper and report on each case method in groups. Case method in this course is conducted 2 time. The papers that have been made will be presented by students. Students will be assessed according to their participation in the presentation and accuracy in the presentation, as well as their participation in the question and answer session when other groups present.
e) Mid-semester exam (UTS) (mid-test) 20%
   The midterm exam covers all the material that has been covered since the beginning of the semester until the 7th meeting both reading and lectures. This exam is conducted in class with multiple choice, short form, and essay questions.
f) Final-semester exam (UAS) (final-test) 20%
   The end-of-semester exam covers all the material that has been covered from the 9th to the 15th meeting, both readings and lectures. This exam is conducted in class with multiple choice, short form, and essay questions..

ASSESSMENT RUBRIC

Quiz Scoring Rubric:

Quiz consists of 5 essay questions done on a sheet of paper (done 2 times during 1 semester)

Score per item	Criteria
16-20	Can answer the question correctly, the steps of working on the problem are correct, and completely correct.
11-15	The steps of working on the problem are correct, there are few mistakes

6-10	Most of the steps are correct, there are many errors
0-5	The steps of working on the problem are not correct, unable to solve the problem

*Maximum score = 100 (5 questions x 20 points)

Teaching Journal/Proposal/Report/Paper Assessment Rubric:

Assessment Criteria	4 Very good	3 Good	2 Simply	1 Less
Understanding of Learning Topics with Resumed Journals	Understand the topic exactly once (25)	Understand the topic (20)	Does not fully and appropriately understand the topic (15)	Not understanding the topic (10)
Contents	Drafts show understanding participants integrate information that has been learned and/or assigned to read during lectures properly and appropriately. (25)	Drafts demonstrate understanding of the material covered and integrate some of the information that has been learned and/or assigned to read during lectures. (20)	Drafts show an understanding of the material covered and only integrate a small portion of the information that has been studied and/or assigned to read during the lecture. (15)	Drafts show a lack of understanding of the material discussed so that it is not clear and does not integrate the material. information that has been learned and/or assigned to read during lectures. (10)
Clarity of Writing	All writing ideas are well and clearly conveyed. (25)	Most of the ideas are well-written and clear. (20)	Some of the ideas are well-written and clear. (15)	The idea of the writing is not conveyed well and clearly. (10)
Language Clarity	Uses foreign/Indonesian language well and correctly few grammatical and word choice errors that do not interfere with understanding. (25)	Uses foreign/Indonesian language well and correctly with few grammatical and word choice errors that interfere with understanding.	Uses foreign/Indonesian language fairly well and correctly with some grammatical and word choice errors. (15)	Does not use foreign/Indonesian language properly and correctly as the writing contains many grammatical and word choice errors. (10)

		(20)		
Total	**81-100 (Excellent)**	**61-80 (Good enough)**	**41-60 (Enough)**	**0-40 (Less)**

Group Presentation Task Assessment Rubric:

CATEGORIES	4 Very good	3 Good	2 Simply	1 Less
Group Preparation	The group is fully prepared and has optimized presentation exercises. Mutual complementarity between group members with clear tasks for each group member. (25)	The group seemed reasonably prepared but may need more practice presenting. The responsibilities of each group member need to be identified. (20)	The group made an effort to prepare but did not do any presentation preparation exercises. Tasks and responsibilities are assigned and accepted without careful consideration. (15)	The group seemed to have done no preparation at all for the presentation. Tasks and responsibilities are assigned and accepted randomly. (10)
Presentation Organization	The group presented the content clearly, logically, and systematically, through a cohesive introduction, main points, and conclusion. The group used visual aids that effectively supported and reinforced the presentation. (25)	The group presented the content logically and systematically, with an introduction, main idea and conclusion. The group used visual aids that showed a link to the content of the presentation. (20)	The group presented the content fairly logically and systematically, but it did not contain an introduction, main idea, or conclusion. The group occasionally used visual aids that did not support the content of the presentation. (15)	The group presented the content randomly without any introduction, main idea, or conclusion. Groups using unsupportive visual aids or no visual aids at all. (10)
Task Achievement	Each group member is able to demonstrate solid knowledge through their own exposure	Each group member demonstrates good knowledge through their own	Each group member demonstrated sufficient knowledge but failed to	Each group member has no knowledge of the content and presents his or her section in

	and elaboration, and deliver the part of the presentation that is assigned to them within the time allotted. (25)	exposure and elaboration but in less time than the time allocated to them. (20)	elaborate, and presented his or her part in only half the time allotted to him or her. (15)	less than half the time allocated to him or her. (10)
Mastery of Presentation Content	Each group member demonstrates full understanding of the presentation topic. The main points presented are supported by evidence and critically evaluated. (25)	Each group member demonstrated a good understanding of the presentation topic. Most of the main points are illustrated with relevant evidence. (20)	Each group member demonstrated a good understanding of some aspect of the topic. Some illustrations are given, but not critically evaluated. (15)	Each group member did not seem to understand the presentation topic very well. Some evidence was mentioned, but not integrated in the presentation or evaluated. (10)
Answers to Questions	The group was able to correctly answer almost all the questions asked by the audience about their presentation topic. (25)	The group was able to correctly answer most of the questions asked by the audience about the tropes of their presentation. (20)	The group was able to correctly answer some of the questions the audience asked about their presentation topic. (15)	The group was unable to answer the questions posed by the audience on the topic of their presentation appropriately. (10)
Communication Quality	Group interaction with the audience shows interest and respect for the opinions of others. Responses support effective communication. (25)	Group interaction with the audience shows interest and respect for the opinions of others. Responses generally support effective communication. (20)	Some parts of the interaction in the discussion show interest and respect for others' opinions. (15)	Interaction in the discussion shows disrespect for other people's opinions. Responses do not support effective communication. (10)
Total	**81-100 (Excellent)**	**61-80 (Good enough)**	**41-60 (Enough)**	**0-40 (Less)**

Source: Halimi, Sicily. "Assessment Rubric: Learning Plan Book MK Introduction to Teaching Methods", 2021
Maximum score: 25 x 6 components = 150 points: 1.5 = 100

Essay Writing Exam Scoring Rubric:

Assessment Criteria	4 Very good	3 Good	2 Simply	1 Less
Understanding of the Question	Understand the question exactly once (25)	Understand the question (20)	Does not understand the question fully and correctly (15)	Did not understand the question (10)
Contents	Answers show understanding participants integrate information that has been learned and/or assigned to read during lectures properly and appropriately. (25)	Answers demonstrate an understanding of the material in question and integrate some of the information learned and/or assigned to read during the lecture. (20)	Answers show a lack of understanding of the material in question and only integrate a small portion of the information that has been studied and/or assigned to read during the lecture. (15)	The answer shows a lack of understanding of the material in question, so it is not clear and does not integrate the material. information that has been learned and/or assigned to read during lectures. (10)
Clarity of Writing	All writing ideas are well and clearly conveyed. (25)	Most of the ideas are well-written and clear. (20)	Some of the ideas are well-written and clear. (15)	The idea of the writing is not conveyed well and clearly. (10)
Language Clarity	Uses foreign/Indonesian language well and correctly few grammatical and word choice errors that do not interfere with understanding. (25)	Uses foreign/Indonesian language well and correctly with few grammatical and word choice errors that interfere with understanding. (20)	Uses foreign/Indonesian language fairly well and correctly with some grammatical and word choice errors. (15)	Does not use foreign/Indonesian language properly and correctly as the writing contains many grammatical and word choice errors. (10)
Total	**81-100** **(Excellent)**	**61-80** **(Good enough)**	**41-60** **(Enough)**	**0-40** **(Less)**

Multiple Choice Exam Scoring Rubric:

Score per item	Criteria

100/number of questions	Can answer the question correctly
0	Answers are less precise / not in accordance with the answer key that has been provided

Meeting Schedule and Teacher Distribution

Meeting	Learning Materials	Lecturer
Week 1	Anatomy and physiology of livestock digestive organs	Ir. Tati Vidiana Sari, S.Pt., MP. IPM.
Week 2	Protein, carbohydrate, and fat metabolism	
Week 3	Anatomy and physiology of blood	
Week 4	Anatomy of the organs of respiration	
Week 5	Neural networks, nerve impulses, and types of reflexes	
Week 6	Anatomy of muscle tissue, muscle types, and muscle contraction	Dian Tria Fatmila, S.Pt., M.Si.
Week 7	Anatomy of urinary organs, mechanism of kidney action and acid-base balance	
Week 8	**UTS**	
Week 9	Anatomy of endocrine gland organs and hormones	
Week 10	Anatomy and developmental process of genital organs, spermatogenesis, oogenesis, and reproductive cycle	
Week 11	Anatomy of the mammary gland, and mechanisms of lactation	Fuad Hasan, S.Pt., M.Si.
Week 12	Lactation and reproductive organs	
Week 13	Anatomy of thermoregulatory organs and regulatory systems	
Week 14	Growth physiology of monogastric and polygastric livestock, and growth abnormalities	

Week 15	Anatomy of sensory organs and sensory sensor mechanisms	
Week 16	**UAS**	