



**UNIVERSITAS SUMATERA UTARA (USU)  
FACULTY OF AGRICULTURE  
Animal Science Study Program**

**Document Code**  
(To follow)

**SEMESTER LEARNING PLAN (RPS)**

<b>Courses</b>	<b>Code</b>	<b>Constitutional Court</b>	<b>Weight (credits)</b>		<b>Semester</b>	<b>Drafting Date</b>
Animal Feed Industry	PTN3103	Exact	T = 2	P = 1	VI	11 February 2023
<b>AUTHORIZATION/ENDORSEMENT</b>	<b>RPS Developer Lecturer</b>		<b>Vice Dean I</b>		<b>Head of USU Link-up</b>	
	Prof. Dr. Ir. Yunilas, M.P Dr. Nevy Diana Hanafi, S.Pt., M.Si Kennie Cendekia Desnamrina, S.Pt, M.Pt Muhammad Amran, S.Pt., M.Pt.		Dr. Lisnawita, S.P., M.P		Prof. DR. Dwisuryant M.Sc.	
<b>Learning Outcomes (CP)</b>	<b>CPL-Study Programs Charged to the Constitutional Court</b>					
	CPL01	Able to apply logical, critical, systematic thinking innovatively through the approach and implementation of the animal feed industry in a disciplined, honest and responsible manner.				
	CPL05	Able to disseminate science and technology in the field of animal husbandry with concern for the community and the environment.				
	CPL07	Able to carry out livestock business with the application of livestock technology that pays attention to aspects of livestock welfare to produce optimal livestock productivity from upstream to downstream.				
<b>Learning Outcomes (CP)</b>	<b>Course Learning Outcomes (CPMK)</b>					
	Through the learning experience in this lecture, and supported by readings, activities, and other enrichment materials, students are expected to master the competency standards: CPMK1: Students are able to explain with logical, critical, systematic thinking innovatively the animal feed industry, the classification of the animal feed industry, the planning for the establishment of the feed industry, the management of feed raw materials, equipment and support for the feed industry. CPMK3: Students are able to apply feed production process techniques, handling and quality control of feed raw materials and feed finished materials CPMK4: Students are able to analyze the feasibility of the animal feed industry business					
<b>Brief Description of MK</b>	The animal feed industry course is a course that studies the history of the development of the feed industry, industry classification, planning for the establishment of the feed industry, management of the animal feed industry, Feed Production Process Flow in Animal Feed Factories, Opportunities and threats in the development of the animal feed industry and Feasibility and Perpu about the animal feed industry.					

<b>Learning Materials/Subject Matter</b>	<ol style="list-style-type: none"> <li>1. Definition, history and factors that influence the establishment of the feed industry</li> <li>2. Classification of the feed industry</li> <li>3. Establishment of the feed industry</li> </ol>

	<ol style="list-style-type: none"> <li>4. Feed raw material management</li> <li>5. Storage of feed raw materials</li> <li>6. Equipment and support for the feed mill industry</li> <li>7. Feed Industry Production Process</li> <li>8. Feed Industry Production Process (continued)</li> <li>9. Feed Production Process Flow in Animal Feed Factory</li> <li>10. Handling and quality control of Raw Materials</li> <li>11. Handling of Finished Feed and quality control of Finished Feed</li> <li>12. The development process of the animal feed industry</li> <li>13. Opportunities and threats in the development of the animal feed industry</li> <li>14. Eligibility and Perpu on the animal feed industry</li> </ol>	
<b>Book</b>	<ol style="list-style-type: none"> <li>1. Nasir. M.H., Widodo, E., Sjojfan, O. 2018. Animal Feed Industry. Hapless. Ub Press</li> <li>2. Jaelani, A. 2021. Roses production and physical quality test on the feed industry. Banjarbaru. Zukzez Press</li> <li>3. Fenny R. Wolayan Betty Bagau Meity R. Imbar. 2023. Animal Husbandry Industry: Technology in the Feed Industry. Bandung. Patra Media Grafindo.</li> <li>4. Related journals</li> <li>5. etc</li> </ol>	
<b>Learning Media</b>	<b>Software</b>	
	<ol style="list-style-type: none"> <li>1. <i>Microsoft Word</i></li> <li>2. <i>Microsoft PowerPoint</i></li> <li>3. <i>VLC Media Player</i></li> <li>4. <i>KM Player</i></li> <li>5. E-Learning by Google Classroom – <i>ClassUNM</i></li> <li>6. <i>Online Packaging Template</i> - <a href="http://www.mamebo.com">www.mamebo.com</a></li> </ol>	<b>Hardware</b>
	<ol style="list-style-type: none"> <li>1. <i>Laptop</i></li> <li>2. LCD</li> <li>3. White Board</li> </ol>	
<b>Teaching Team</b>	<ol style="list-style-type: none"> <li>1. Prof. Dr. Ir. Yunilas, M.P</li> <li>2. Dr. Nevy Diana Hanafi, S.Pt., M.Si</li> <li>3. Kennie Cendekia Desnamrina, S.Pt, M.Pt</li> <li>4. Muhammad Amran, S.Pt., M.Pt.</li> </ol>	

<b>Required Courses</b>	<ol style="list-style-type: none"> <li>1. Feed Ingredients and Ration Formulations</li> <li>2. Animal Nutrition Science</li> </ol>
<b>Lecture Strategy</b>	Face-to-face: <ol style="list-style-type: none"> <li>1. Lecture material presentation activities based on weekly topics that have been prepared</li> <li>2. Class discussions</li> </ol>

	<ol style="list-style-type: none"> <li>3. Video views</li> <li>4. Assignments (papers and presentations)</li> <li>5. Quiz</li> </ol> Non-face-to-face: <ol style="list-style-type: none"> <li>1. Individual assignments: create papers tailored to weekly topics</li> <li>2. Group assignment: case study tailored to the topic of choice (packaging design and labeling)</li> </ol>					
Week	CPMK (According to the learning stage)	Learning Materials	Learning Methods	Assesment		
				Indicator	Shape	Weight
1	Students are able to explain the basic concept of the animal feed industry (CP1)	Basic concepts: <ol style="list-style-type: none"> <li>1. Definition of animal feed industry</li> <li>2. History of the development of the feed industry</li> <li>3. Factors that affect the establishment of the feed industry</li> </ol>	<ol style="list-style-type: none"> <li>1. Lectures</li> <li>2. Class discussions</li> <li>3. Video</li> </ol> Time: 2 x 50 minutes	Completeness and correctness of explanation	<ol style="list-style-type: none"> <li>1. Observation</li> <li>2. Partisipasi</li> </ol>	5%
2	Students are able to explain the classification of the animal feed industry (CP1, CP2)	Industry classification <ol style="list-style-type: none"> <li>1. Feed raw material industry</li> <li>2. Feed industry</li> </ol>	<ol style="list-style-type: none"> <li>1. Lectures</li> <li>2. Class discussions</li> <li>3. Video</li> <li>4. Quiz</li> </ol> Time: 2 x 50 minutes	Completeness and correctness of explanation	<ol style="list-style-type: none"> <li>1. Observation</li> <li>2. Participation</li> <li>3. Quiz</li> </ol>	5%



6	Students are able to explain some of the equipment needed in the animal feed factory (CP1, CP2, CP3)	Introduction of feed mill industrial equipment: 1. Hammer Mill 2. Burr Mill 3. Roller Mill 4. Mixer dll	1. Lectures 2. Class discussions 3. Video 4. Quiz  Time: 2 x 50 minutes	Completeness and correctness of explanation	1. Observation 2. Participation 3. Quiz	5%
7	Students are able to describe the production process in the animal feed industry (CP1, CP2, CP3)	Production Process in the Feed Industry: 1. Pellet and crumble making process 2. Grinding process 3. Mixing 4. Drying	1. Lectures 2. Class discussions 3. Video 4. Quiz  Time: 2 x 50 minutes	Completeness and correctness of explanation	1. Observation 2. Participation 3. Quiz	5%
<b>MIDTERM EXAMS (UTS)</b>						

9	Students are able to describe the production process in the animal feed industry (CP1, CP2, CP3)	Production Process in the Feed Industry (continued): 5. Heating 6. Extruding 7. Conditioning 1. 8. Pelleting	1. Lectures 2. Class discussions 3. Video 4. Quiz  Time: 2 x 50 minutes	Completeness and correctness of explanation	1. Observation 2. Participation 3. Quiz	5%
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10	Students are able to master the Flow of Feed Production Process in Animal Feed Factories (CP1, CP2, CP3)	Feed Production Process Flow in Animal Feed Factory: 1. Purchasing <i>order</i> 2. Purchasing 3. Reception 4. Quality control 5. Warehousing 6. Processing 7. Loading 8. Marketing	1. Lectures 2. Class discussions 3. Video 4. Quiz  Time: 2 x 50 minutes	Completeness and correctness of explanation	1. Observation 2. Participation 3. Quiz	5%
11	Students are able to explain the handling and quality control of Raw Materials (CP3)	Handling and quality control of Raw Materials 1. Acceptance of solid and liquid raw materials 2. Storage of solid and liquid raw materials 3. Pest control	1. Lectures 2. Class discussions 3. Video 4. Quiz  Time: 2 x 50 minutes	Completeness and correctness of explanation	1. Observation 2. Participation 3. Quiz	5%
12	Students are able to explain the handling and quality control of Raw Materials (CP1, CP2)	Handling of Finished Feed 1. Receipt of finished feed in the warehouse 2. Storage of finished feed 3. Pest control	1. Lectures 2. Class discussions 3. Video 4. Quiz  Time: 2 x 50 minutes	Completeness and correctness of explanation	1. Observation 2. Participation 3. Quiz	5%
13	Students are able to describe the process of developing the animal feed industry (CP1, CP2)	The development process of the animal feed industry: 1. Upstream sector 2. Cultivation Sector 3. Downstream sector	1. Lectures 2. Class discussions 3. Video 4. Quiz 5. Assignment	Completeness and correctness of explanation	1. Observation 2. Participation 3. Quiz 4. Assignment	10%

			4. Time: 2 x 50 minutes			
14	Students are able to outline the opportunities and threats in the development of the animal feed industry (CP3, CP4)	<p>Opportunities and threats in the development of the animal feed industry:</p> <ul style="list-style-type: none"> <li>. Investment Opportunities for the Provision of Local Feed Raw Materials</li> <li>. Technology Opportunities and Utilization of Alternative Resources/Raw Materials</li> <li>. Market Opportunities and Partnership Pattern Development</li> </ul>	<ol style="list-style-type: none"> <li>1. Lectures</li> <li>2. Class discussions</li> <li>3. Video</li> <li>4. Quiz</li> </ol> <p>Time: 2 x 50 minutes</p>	Completeness and correctness of explanation	<ol style="list-style-type: none"> <li>1. Observation</li> <li>2. Participation</li> <li>3. Quiz</li> </ol>	10%
15	Students are able to design a feasibility study for the business of an animal feed factory (CP4)	<p>Eligibility and Perpu on the animal feed industry:</p> <ol style="list-style-type: none"> <li>1. Aspects of the business feasibility study of animal feed factories</li> <li>2. Factory feasibility analysis stage (AKP)</li> <li>3. Government regulations related to the animal feed industry</li> </ol>	<ol style="list-style-type: none"> <li>1. Lectures</li> <li>2. Class discussions</li> <li>3. Percentage</li> <li>4. Quiz</li> </ol> <p>Time: 2 x 50 minutes</p>	Completeness and correctness of explanation	<ol style="list-style-type: none"> <li>1. Observation</li> <li>2. Participation</li> <li>3. Quiz</li> <li>4. Assignment</li> </ol>	15%
<b>FINAL SEMESTER EXAM (UAS)</b>						

## CPMK Fulfilment Matrix with Types of Evaluation and Process

Form of Evaluation	CPMK015
Quiz	Quiz assessment
Assignment	Task assessment
Case Method (presentation and participation in discussions)	Presentation assessment rubric
UTS	UTS Assessment (Multiple choice questions and essays)
UAS	UAS Assessment (Multiple choice questions and essays)

### Assessment Plan

Form of Evaluation	Weight	Frequency
Quiz	20	2 (held in the 3rd and 9th weeks)
Assignment	20	2 (held in the 4th and 10th weeks)
UTS	30	1 (held in the 8th week)
UAS	30	1 (held in the 16th week)
<b>Total</b>	<b>100%</b>	

### Explanation:

#### a. Quiz 10%

During the semester there will be 2 quizzes held in class. The quiz will be conducted through e-learning and has been scheduled in advance. The material tested is announced by the lecturer and written in the RPS.

#### b. 10% Assignment

During the semester there will be 2 structured tasks. The assignment given is an effort to increase student insight by making papers and reports in groups related to the material written in the RPS. 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 make presentations.

#### c. UTS 30%

The midterm exam covers all the material that has been discussed from the beginning of the semester to the 7th meeting, both reading and lecture. This exam is conducted in class in the form of multiple-choice questions, short fills, and essays.

#### d. UAS 30%

The final semester exam covers all the material that has been discussed from the 9th to the 15th meeting, both readings and lectures. This exam is conducted in class in the form of multiple-choice questions, short fills, and essays.

### ASSESSMENT SCORE

#### Post Test Quiz Assessment Rubric (10%)

Pre/Post test questions have 5 essay questions done on a piece of paper (done 2 times for 1 semester)

<b>Grades per item of the question</b>	<b>Criterion</b>
20	Be able to answer questions correctly, the steps to work on the questions correctly, and be completely correct
15	Steps to work on the correct questions, there are few mistakes
10	Most of the steps to work on the questions are correct, there are many mistakes
5	The steps to work on the questions are not precise, unable to solve the questions

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

**Minimum score = 25 (5 questions x 5 points)**

Quiz score 1:  $20 \times$  the value per question item (maximum score is 100)

Quiz score 2:  $20 \times$  the value per question item (maximum score is 100)

**Group Presentation Task Assessment Rubric (10%)**

<b>Thing</b>	<b>Evaluation criteria</b>				
Fill	Complete, with additional good material (20)	Complete (18)	Same as text book (16)	Not complete, but most of the material has been covered (14)	Substantially incomplete (12)
Answering discussion questions	Able to answer all questions correctly (20)	Can answer most questions correctly but there are unanswered questions (18)	Be able to answer some of the maps correctly, others do not reach the target and there are unanswered questions (16)	Most of the answers don't hit the target and there are unanswered questions (14)	Can't answer all questions (12)

Presentation	Clear, concise with good groove (20)	Obviously, concise with a plot is sometimes not good (18)	Medium presentation skills (16)	Stuttering Presentations (14)	Presentation not running (12)
Group organization	Very good organization, supporting each other's presentations (20)	Nice organization (18)	Medium organization, some people are organized (16)	Lack of organization so that communication errors often occur (14)	The organization is chaotic so the presentation is very disrupted (12)
Creativeness	Very creative without going out of purpose (20)	Creative creates enthusiasm (18)	Occasionally eye-catching (15)	Occasionally eye-catching (13)	Dull, sleepy (11)
<b>TOTAL</b>	<b>100</b> <b>(Very good)</b>	<b>90-80</b> <b>(Very Good)</b>	<b>79-70</b> <b>(Good)</b>	<b>69-50</b> <b>(Good enough)</b>	<b>59-40</b> <b>(Not Good)</b>

**Information:**

The total maximum score is 100. The numbers in parentheses are the scores of each criterion.

**Essay Exam Assessment Rubric:**

<b>Assessment Criteria</b>	<b>4 Excellent</b>	<b>3 Good</b>	<b>2 Enough</b>	<b>1 Less</b>
<b>Understanding Questions</b>	Understand the question exactly (25)	Understanding questions (20)	Not understanding the question fully and accurately (15)	Don't understand the question (10)
<b>Fill</b>	Answers show understanding in-depth to the material asked and participants integrate the information that has been learned and/or assigned to be read during the lecture properly and appropriately (25)	Answers show an understanding of the material asked and integrate some of the information that has been learned and/or assigned to be read during the lecture. (20)	The answer shows a lack of understanding of the material being asked and only integrates A small portion of the information that has been learned and/or assigned to be read during lectures. (15)	The answer shows an incomprehension of the material asked so that it is not clear and does not integrate information that has been learned and/or assigned to be read during lectures. (10)
<b>Clarity of Writing</b>	All the ideas of the writing are conveyed well and clearly. (25)	Most of the ideas of writing are conveyed well and clearly. (20)	Some of the ideas of the writing are conveyed well and clearly. (15)	The idea of writing is not conveyed properly and clearly. (10)
<b>Language</b>	Using a foreign language properly	Use foreign / Indonesian languages	Using a foreign language	Not using foreign/Indonesian

<b>Clarity</b>	and correctly with few grammatical errors and word choices that do not interfere with understanding (25)	well and correctly with few grammatical errors and word choices that interfere with understanding. (20)	quite well and correctly with some grammatical errors and word choices (15)	languages properly and correctly because the writing contains many grammatical errors and word choices (10)
<b>Total</b>	<b>81-100</b> <b>(Very Good)</b>	<b>61-80</b> <b>(Good enough)</b>	<b>41-60</b> <b>(Enough)</b>	<b>0-40</b> <b>(Less)</b>

**Multiple Choice Exam Assessment Rubric:**

<b>Grades per item of the question</b>	<b>Criterion</b>
100/ many questions	Be able to answer questions correctly
0	The answer is not correct/not in accordance with the available answer key