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SEMESTER LEARNING PLAN

(RPS)

ANIMAL BREEDING SCIENCE (PTK 62116)

By:

KBK LIVESTOCK BREEDING

Department of Animal Production Technology
Animal Husbandry Study Program, Faculty of Animal Husbandry
Andalas University Padang, 2024

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SEMESTER LEARNING PLAN (RPS)

FACULTY OF ANIMAL HUSBANDRY, ANDALAS UNIVERSITY

ANIMAL HUSBANDRY STUDY PROGRAM

SUBJECT	CODE	I-*Learn* Course URL	Weight (credits)	Semester	Date of Compilation
Breeding Science Cattle	PTK 62116	AND	3 (2:1)	IV	December 12, 2022
Authorization	**RPS Developer**		**Head of Study Program**		
	1. Dr. Ir. FirdaArlina, M.Si 2. The r Mangku Mundana, MP		Dr. Kusnadidi Subekti, S.Pt.MS.		
Team Teaching	3. Adisti Rasosari, S.Pt, M.Sc Dr. Ir. Firda Arlina, M.Si.; Ir. Mangku Mundana, MP, Dr. Rusfidra, S.Pt, MP, Dr. Tinda Afriani, MP, Linda Suhartati, S.Pt, MP, Adisti Rasosari, S.Pt, M.Sc				
Graduate Learning Outcomes (CPL),	**CPL-1: Internalize the university's core values, code of ethics, and scientific ethics based on Pancasila values.**				
Performance Indicators (PI).	**IK-1:** Able to apply honesty in every academic activity. **IK-2:** Able to apply discipline in attendance and completion of assigned tasks. **IK-3:** Able to apply politeness in every academic activity. **IK-4:** Able to demonstrate a fully responsible attitude towards assigned tasks.				

CPL-3: Able to apply animal husbandry science in accordance with developments in the animal husbandry industry and scientific activities. innovative and up-to-date.

IK-1: Mastering technical and industrial management skills in the livestock production sector.

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	CPL-4: Able to identify, formulate, provide solutions and evaluate the solutions provided to problems in the livestock sector
	IK-1: Able to identify problems in the livestock sector **IK-2:** Able to formulate and describe problems in the livestock sector **IK-3:** Able to apply solutions to problems in the livestock sector **IK-4:** Able to assess the results of solutions implemented in the livestock sector
	CPL-7: Have an attitude as a lifelong learner and further study in developing a career. professional
	IK-2: Demonstrate an attitude as a lifelong learner
Achievements **Eye Learning** **Studying**	**CPMK 1 :** Demonstrate a responsible and honest attitude towards work in the field of Animal Breeding science in general. independent (CPL 1 and CPL 7)
	CPMK 2 : Students are able to explain basic concepts regarding the role of livestock breeding science, qualitative and quantitative and diversity of traits in order to improve the genetic quality of livestock, especially local livestock (CPL 1, CPL 3, CPL 4, CPL 7)
	CPMK 3. Students are able to calculate heritability values, repeatability values, genetic correlations and breeding values. as a basis for carrying out livestock breeding (CPL 1, CPL 3 and CPL 4, CPL 7)
	CPMK 4: Students are able to choose the right selection and crossing methods (taking into account the value of genetic parameters) to carry out livestock breeding programs (CPL 1, CPL 3 and 4, CPL 7)
	CPMK 5: Students are able to design and conduct livestock breeding research and are able to determine the variables of treatment given (CPL1, CPL 3, CPL 4, CPL 7)

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Short Description Subject		The Animal Breeding Science (IPT) course provides students with the knowledge to explain and understand systems for improving the genetic quality of livestock through selection and crossbreeding approaches. It also explores the use of genetic parameters (heritability, repeatability, genetic correlation, breeding value) and their application in livestock breeding. Apart from that, it provides knowledge to students to be able to explain and understand about improving the genetic quality of local livestock.
Study Materials		1. The importance of animal breeding science and a review of genetics and the development of animal breeding 2. Qualitative and quantitative characteristics of animal breeding 3. Use of statistics in livestock breeding 4. Genetic parameters Heritability, repeatability and genetic correlation 5. Livestock Breeding Value, MPPA for livestock selection 6. Selection to improve the genetic quality of livestock 7. Crossbreeding to improve the genetic quality of livestock
Library		**Main:** 1. Noor, R. 2015. Animal Genetics. Tarsito Publisher, Bandung 2. Hardjosubroto, H. 1994. Application of Livestock Breeding in the Field. Publisher: PT. Gramedia Widiasarana, Jakarta 3. Warwick EJ Maria Astuti, and W. Hardjosubroto. 1995. Animal Breeding. Gajahmada University Press. Fifth edition

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Supporting

Sources: 1. Martojo, H. Improving the Genetic Quality of Livestock. Department of Education and Culture, PAU Bogor Agricultural University 2. Guide to Animal Breeding Science Practicals

Learning Media Software:

1. Power Point 2.
Vidio/MP4 3.
Zoom meeting 4. MS team 5. I-learn

Hardware :

1. LCD Projector 2. Whiteboard

Subject

Genetics

prerequisite

Approaches, Methods and Strategies Learning

a. **Learning Approach:** Student-centered *learning,* where students play an active role in finding learning resources and processing them into information in the form of teaching materials, while the lecturer acts as a motivator and facilitator on how to learn to achieve the learning outcomes of the course.

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b. **Learning Methods:**

b.1 Cooperative *Learning*

Cooperative learning is a part of learning techniques where students interact with each other to acquire and practice elements of lecture material and find learning outcomes for the course in groups.

This cooperative learning method is expected to provide students with lifelong learning experiences . Furthermore, through cooperative learning methods, students are required to train and develop their teamwork and communication skills *(interpersonal skills),* creative thinking, and critical thinking *(intrapersonal skills),* which will benefit graduates in successfully securing jobs and careers in the professional world.

b.2. Case-Based Learning (CBM) is a participatory learning method based on discussion and literature study to solve cases or problems.
The application of this method will help students hone and improve critical thinking skills to solve problems, communication skills, collaboration, and creativity.

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	c. Learning Strategy: c.1. CL Strategy: - Group assignments; the group searches for learning resources and arranges them into teaching materials - Assignment presentations; each group member presents the assigned sub-topic - Class discussions; other group members will ask questions, criticize, and/or provide input, while The group member who is presenting gives his explanation. - Tutorials and enrichment from lecturers c.2. CBM Strategy - Students are given cases/problems in the form of videos or case narratives - Students look for learning resources to find the root of the problem and find solutions in groups - Presentation of learning outcomes papers from the given cases - Class discussions - Tutorials and enrichment from lecturers

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Sunday when-	Sub CP-MK	Assessment Indicators	Material Learning [Reference]	Learning Activities [Estimated Time] LURING	DARING: SM/AM/AK Media	Assessment Learning	
1 Students understand CPMK, indicator assessment, material learning, *collaborative learning methods, Case Base Method* and assessment of learning outcomes, as well as the references used. 1. Students understand the objectives and framework of the role of breeding in livestock production.	- Capable referring to RPS - Able to explain the importance of livestock breeding in improving genetic quality	- RPS - Contract Lectures - the concept of the role of livestock breeding, the concept of phenotype and genotype and the		- The lecturer explains the RPS and study contract (30') - The lecturer explains the assignment groups and cases for learning materials week 2 to 9 (10') - The lecturer explains the concept the importance of breeding and the concept of phenotype and genotype and genotype interactions (50').	- Ilearn - PPT - LCD	Assessment attitude in process learners an with use can technology observation And instrument rubric UTS 1%	

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interaction of genotype and (Ref. 1-2)

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2	2 Students understand some basic concepts of genetics are important in animal breeding science	- Able to explain basic concepts of genetics important in studying the science of animal breeding	Classical genetics of inheritance of traits. Phenotype and genotype Genotype and environment interaction	Review of students' knowledge of basic genetic concepts (15') The lecturer explains about the inheritance of traits in livestock, (30') The lecturer explains about Phenotype, genotype and the interaction between genotype and environment (55')	Ilearn PPT	UTS 4% M S t e a m / z o o m / W A G	
3	3. Students understand Role and utilization of fat in poultry farming **CPMK 1, and 3**	- Able to explain role and utilization of fat as a source energy and resources fatty acids essential, as well as fat	- Determination of digestibility crude fiber - The role of fat as source of fatty acids other roles of essential, as a source supporting energy and other roles for poultry farming	The lecturer gives a tutorial and enrichment related to tasks which is presented and discussed. (40') Students receive feedback return assignments from lecturers (10' for each topic)		UTS 4%	

Practicum:

Determination of Fiber Digestibility

Country

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4-5	4-5. Students understand the role and utilization of protein in poultry, and know the protein requirements of poultry at each stage of their life.	- Able to explain The role and use of protein for poultry and explaining the need for protein and amino acids in the period	- The role of protein and its metabolism in poultry - Protein requirements for poultry are related to the energy content of the ration (balance of energy with protein)	Presentation of case study 1 by student group (40') Presentation of case study 2 by student group (40')	**AND** Student group with the group and narrate it in the form of a paper (Word) or Ppt (180') Each group sends a discussion of Answering questions and input from other students (40')	Ilearn PPT teaching materials Discussing **case 1 and case 2** cases 1 and 2 to the lecturer via I-learn. **AND:**	Case 1: 5% Case 2: 5%. Video/MP3 UTS 2% Practice 3%	

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Receive feedback on assignments from lecturers 15')

- Determination of N retention

Student groups perform the assignments (after the presentation), with the lecturer), with the main content of the lecture material in 1 week

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Able to differentiate between quality and non- quality proteins poultry.

- Determination of protein quality (including through N retention)

Tutorials and enrichment related to both cases (25')

CPMK 1, 3, and 4

Tutorial on protein quality and

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Retention measures		Measurement		discussion by the heel **PRACTICAL:** - Determination N Retention	Lecturer (40')		
		N and enrichment of the main topic of disc					

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6. Students understand 6	- partition of energy for poultry und erst andi ng and parti tioni ng of ener gy. (4)		Energy Partition for Poultry	partition of energy (15')	Discuss **case 3** with the group and narrate it in the form of a paper (Word) or PPT (100')	materials MS team/ zoom/WAG		UTS 1%
7. Students und erst and Rel ate dne ss energy content of the ration with Consumpt ion of rations, and its impact on the availability of nutrients		oth er foo ds, esp ecia lly prot ein	- Able to explain the relationship energy content of rations with the amount of rations consumed and impact on the availability of substances other food especially protein	- The relationship between the energy content of rations and the amount of rations consumed and its relationship to the availability of other nutrients, especially protein.	Presentation of case study 3 by student group (25') Answering questions and input from other students (25') Tutorial and enrichment related to the case (10')			Each group sends a discussion of the 3 cases to the lecturer via I-learn. **AND:** Student groups perfect their assignments (after presenting them and receiving feedback from the lecturer), within 1 week.
		8. Students	- Able to explain the correct balance of energy and protein in each growth period and production period	- Energy (ME) and protein balance in each growth and production period and related to protein availability	GE measurement material tutorial and by ME .lecturer (25') **PRACTICAL:** - GE Measurement			

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		Case 3: 5%		UTS 3%
understand the determination of ME from rations/feed eaten	- Able to determine ME from rations/feed eaten	- GE measurements and ME in poultry	ration/feed with Bomb calorimeter - ME measurement using the Hill method (1960), using Cr2O3	UTS 4% Practical 3%

CPMK 2,3 and 4

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7	9. Students are able to explain the role and use of macro and micro minerals. micro for poultry	- Accuracy in explaining the role and use of macro minerals for poultry - Accuracy in explain the role and use of micro minerals for poultry - Accuracy in explaining the impact of deficiencies and excesses of various minerals on poultry	_ The role of various types of macro minerals and their uses for poultry - The role of various types of micro minerals and their benefits for poultry - The impact of deficiency and excess macro and micro minerals for poultry	Presentation of case study 4 by student group (40') Presentation of case study 5 by student group (40') Answering questions and input from other students (40') Receive feedback on assignments from lecturers 15') Tutorials and enrichment related to both cases (25')	**AND** Student group Discussing **cases 4 and** 5 with the group and narrate it in the form of a paper (Word) or Ppt (180') Each group sends a discussion of cases 4 and 5 to the lecturer via I-learn. **AND:** Student groups perfect their assignments (after presenting them and receiving feedback from the lecturer), within 1 week.	Ilearn PPT teaching materials MS team/ zoom/WAG	Case 4: 3% Case 5: 3%
8	**CPMK 1, 3, and 4**							
9	10. Students are able to explain the role and use of vitamins and water for poultry	- Accuracy in explain the role and benefits of water- soluble vitamins for poultry	_ The role of various types of macro minerals and their uses for poultry	**Midterm exam**	Presentation of the topic of vitamins by student groups (25') and the topic of discussion Air (25')	**AND:** Student groups summarize learning materials according to the topic and arrange them in the form of	Ilearn PPT teaching materials MS team/ zoom/WAG	

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	Assessment	**CPMK-1 s/d**	**CPMk-7**	Assignment: 2%			UAS 6%
	CPMK 2, and 3	- Accuracy in explain the role and use of fat-soluble vitamins for poultry - Accuracy in explaining the impact of deficiencies and excesses of various vitamins on poultry - Accuracy in explaining the role of water and the factors that influence it	- The role of various types of micro minerals and their benefits for poultry - The impact of deficiency and excess macro and micro minerals for livestock poultry - Water and water sources for poultry	Answer questions and input from other students (25' each for each topic) The lecturer provides tutorials, material enrichment and feedback related to the assignments presented and discussed. (25')	PPT	The student group presents the summary (ppt) to the lecturer via	

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llearn

AND:

After discussing and receiving feedback from the lecturer, the student group peer reflected the assignment with in 1 week to get the erasa group.

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10- 13 11.	Student able to select feed ingr edie nts for ratio n formulatio n poultry 12. Students are able to understan d the principles and	as components ransom - Accuracy in selecting various effective and efficient feeds as ration	- Accuracy in selecting feed ingredients	_ Types of feed ingredients are energy, conventional source efficient sources of protein, conventional ration - Functional feed formulation (100')	- Material selection tutorial effective and (50') of - Tutorial on non-	**AND:** Student groups summarize learning materials accarding to the topic and arrange them in the form of PPT The student group sent the summary (ppt) to the lecturer via	llearn PPT teaching materials MS team/	Project 1: 5% Project 2: 5%

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			UAS: 2% Practical 2% Project 1: 7% Project 2: 7%					
	methods of formulation poultry rations							
13.	Students are able to formulate appropriate rations poultry needs			the frequency/time of giving rations to poultry **CPMK 2, 3 and 4**	components - Accuracy in formulating ransom Accuracy in selecting the form and method of giving (frequency) rations	- Basic principles of ration preparation (ration formulation) - Shape and method Ration provision is related to animal welfare and livestock performance (growth and production)	project 1. (80') - Report presentation **project 2** student groups (80') - Answer questions and input from other students for project 2. (80') Enrichment of material and feedback related to the tasks discussed. (30') **PRACTICAL:** - Ration formulation - Technique for mixing rations to make them homogeneous	llearn AND: After discussing and receiving feedback from the lecturer, the student group perfected the assignment within 1 week together as a group.
14.	Students are able to understand the shape and how to provide rations poultry, and are able to explain							

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UAS: 4%

Project 1: 2%
1%

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14	15. Students are able to understand and implementing research in the field of poultry nutrition **CPMK 1,2,3, and 4**	1. Accuracy in explaining the implementation of research in the field of poultry nutrition and the accuracy of its application	Research techniques on poultry nutrition, discussing: Requirements for livestock used, cages and equipment, treatments given, research design, placement of livestock in cages, and observed variables.	Tutorial teaching materials Related to project task 1	The material has been covered in project assignment 1	Ilearn PPT teaching materials MS team/ zoom/WAG	Project 1: 3% Project 2: 3% UAS: 2%

AK = Collaborative Asynchronous, namely learning activities at different times and places collaboratively (with other people)

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Appendix 1. Case Description

CASE-BASED METHOD (CBM)

	Case 1	Chickens during the grower period receive a ration with the appropriate protein and energy levels. The ration used is composed of yellow corn, rice bran, soybean meal, chicken feather meal, and bone meal. Observations show low weight gain (slow growth, even stunting), and slaughtered chickens exhibit significant abdominal and intramuscular fat. Why is this?
Case 2		Chickens during the grower period receive a ration with the appropriate protein and energy content. The ration consists of yellow corn, rice bran, soybean meal, and bone meal. Observation results: slow growth (dwarfism), there is a lot of fat in the abdominal cavity, liver, and intramuscular.
Case 3		
Case 4		Chickens in the starter period received a ration with a protein content of 20% and energy (ME) of 3200 kcal/kg. The ration used was composed of yellow corn, rice bran, soybean meal, fish meal, bone meal, and topmix. Observations: slow growth (dwarfism), and slaughtered chickens showed significant abdominal and intramuscular fat.
Case 5		Chickens in the grower period receive rations with the right levels of protein and ME, the right levels of Ca and P. The ration used is composed of yellow corn, seaweed, soybean meal, fish meal, and bone meal. Observation results: decreased consumption, slow/disturbed growth, chickens have difficulty standing upright (like signs of paralysis). After more than 2 weeks, deaths began to occur, and deaths continued to increase until harvest age. In dead chickens, it was seen that many pockets were found containing thick fluid wrapped in a thin transparent membrane in the intramuscular, abdominal cavity, and the heart was also wrapped in a membrane containing the fluid. What happened to the chicken and what is the solution? In poultry farming, several cases in the field are still often found, such as: 1). Laying hens during the production period experience paralysis or eat their own eggs, then the resulting eggs have thin and easily cracked shells; 2). Cases of chicks whose legs are bent so they have difficulty standing upright. Why does this happen and what is the
Case resolution steps:		

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Solution2

1. Explain precisely the topic of the case

2. Explain in detail what the cause of the case i

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3. What creative ideas (solutions) are offered to solve the case

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ATTACHMENT 2. Project Task Description

PROJECT BASED LEARNING (PjBL)

Instructions Project	**1.** Arrange a ration for 10 chickens (choose one of: broiler starter, broiler grower, layer breed, pullet period and PE as needed, for a layer period of 2 weeks of maintenance in the UPT cage, then observe the response (feed consumption, HDP, egg weight, egg mass and FCR) of the livestock due to the ration. a. Pay attention to the needs and balance of protein and energy b. Mineral needs and balance c. The method of preparing the ration used d. Observe/ measure the response to production performance that may change due to the provision of the ration e. Discuss whether the provision of the ration you have prepared causes changes in performance prod uction, is the change positive or even negative ? f. Discuss why this happene d
	2. Each group conducts a survey of at least one poultry farm. a. Conduct interviews regarding feed ingredients, the nutritional content of the rations used for each maintenance period, and the frequency of providing poultry rations. b. Identify the obstacles faced by livestock farmers, such as availability, quality, price of rations, or other obstacles. c. Draw a conclusion from this project and what solutions are offered to the obstacles faced by livestock farmers regarding poultry rations.

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Purpose and Project completion steps

Exterior

Timetable

Implementation

d. Conclusions and solutions offered to farmers are made in the form of reports.

Objective: This project aims to strengthen the material: 1). Feed ingredients for poultry; 2). The basis and method of compiling poultry rations; and 3).

Form, method and frequency/time of provid

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ngpoultryrationsStepsforcompletingtheproject:1.

Explain each point of the project instructions precisely 2. Conduct a literature study for compiling the project report, the literature study can be in the form of national and international scientific journals reputable, or other reliable sources.

3. Output: Recommended ration composition, as well as ration preparation methods. Reports in the form of papers, PPTs, and

recommended ration composition along

with methods for preparing poultry rations.

Week 11-15

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Appendix 3. Assessment Plan

Assessment Plan Table (Case-based method and Project-based learning)

Task	Case	Case	Case	Case	Case	UTS	Project Report	Total UAS
Sub CPMK and CPMK								
Sub-CPMK 1 and 2 Students understand the scope of the MK Poultry Nutrition Science. Understand the role and utilization of carbohydrates in poultry. **Sub-CPMK 3 (CPMK 1)** Students understand the Role and	**Sub-CPMK 4 (CPMK 2, 3** and 4) Students understand the Role and utilization of protein in poultry, as well as knowing protein requirements and essential amino	acids of poultry at every stage of its life **Sub-CPMK 5 (CPMK 2,3 and 3)** Students understand the meaning and **Sub-CPMK 6 (CPMK 2, 3 and 3)** energy partition Students	understand the relationship energy content of rations with ration consumption, and its impact on the availability of other nutrients, especially	all protein **Sub-CPMK 7 (CPMK 2, 3, and 4)** Students understand the determination of ME from rations/feed **Sub-CPMK 8 (CPMK 1, 3 and 4)** Students are able to explain the roles and utilization of macro and micro minerals for poultry, and the impact of deficiencies and its advantages **Sub-CPMK 9 (CPMK**	**2, 3)** Students are able to explain the roles and Utilization of Vitamins and Water for Poultry

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1 3 4 5 **Practical work** 1 2

2

3% 2% 6%

1%

4% 4%

2% 3% 15%

5% 5%

1% 3%

2%

3% 8%

5%

4% 3% 7%

6%

3% 3%

6% 8%

2%

Sub-CPMK 10
(CPMK 2, 3, and 4)
5% 5% 2% 12%

Students are able to explain ZM feed composition and quality
2% 7% 7% 4% 20%

2% 1% 3%

Sub-CPMK 11 (CPMK 2,3 and 4)
3% 3% 2% 8%

Students are able to understand the principles and poultry ration formulation methods
5% 5% 5% 5% 3% 3% 17% 10% 17% 15% 15%
100%

Sub-CPMK 12 (CPMK 2, 3, and 4)
students are able to understand the form, method provision of rations, and frequency/time of provision of rations to poultry

Sub-CPMK 13 (CPMK 1, 2, 3 and 4)
Students are able to understand and implementing research in the field of poultry nutrition

Total Percentage

Assessment Rubric for Learning Assignments (Creating Papers and Presentations)

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Group Number:	
Member's Name/BP No.:	
1	
2	
3	
4	
5	
Learning Outcomes for the Course Assessed: CPMK 1.	
Demonstrate a responsible attitude towards work in the field of poultry nutrition independently (ILO 1) CPMK 4. Play an active role both orally and in writing in assignments and group discussions of the course (ILO 4-PI.10)	
Sub-Course Learning Outcomes assessed:	
Sub-CPMK 1, 2, 5, and 9 (CPMK 1 and 4)	

CP-MK/ Sub- CPMK	*Criteria*	(45-49)	(50-59)	(60-74)	(75-100)
CPMK 1 Sub- CPMK 2,5dan 9	Conformity between the assignment and the paper prepared 60 %	***Inferior*** 1. The paper is incomplete and unsystematic. 2. Group members are not involved in making the paper. 1.	***Average*** 1. Complete and systematic paper 2. Not all group members were involved in writing the paper	***Good*** 1. Complete and systematic paper 2. There is only 1 member who is not involved in making the paper	***Excellent*** 1. Complete and systematic paper 2. Interesting PPT and presentation (Easy to understand) 3. All group members are actively involved in making the paper.
CPMK 4 PI-10 Sub- CPMK 1,2,5 and 9	Activities in presenting assignments and answering audience questions (oral communication) 40	PPT and presentation are not interesting (difficult to understand). 2. Many questions remain unanswered	1. PPT and	1. Attractive PPT and presentation are not interesting (difficult to understand) 2. 50% of questions are not answered and	1. The PPT and presentation are systematic and the answers

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presentation (Easy to understand)

2. Few unanswered questions and fairly good answers to questions

interesting. 2. All questions are answered, and the answers satisfy the questioner (audience), this shows that the presenter has mastered the material.

to the questions are not clear

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Assignment Assessment Rubric (Case-based method) (Case 1)

Group Number:	
Member Name/BP No.: 1	
2	
3	
4	
5	

Learning Outcomes of the Subjects Assessed:

CPMK 1. Demonstrate a responsible and honest attitude towards work in the field of poultry nutrition independently (ILO 1)

CPMK 3. Able to apply technology in the field of poultry nutrition science to solve problems in the field of poultry nutrition and find appropriate solutions and effective (ILO 3)

Sub-Course Learning Outcomes assessed:

Sub-CPMK 4: Students are able to explain the meaning and classification of energy, use and deposition of energy in poultry, food substances as sources of energy, energy requirements and factors that influence it and the calculation of energy requirements in poultry.

Sub-CPMK 5: Students are able to explain the meaning and function of protein, protein classification, amino acids for poultry, digestion and absorption of protein in poultry, utilization of protein and amino acids in poultry, protein and amino acid requirements in poultry, the relationship between certain amino acids in poultry, the effects of protein deficiency and excess and protein and amino acids in poultry **(45-49)**

CP-MK/ Sub- CPMK	***Criteria***	***Inferior***	**(50-59)** ***Average***	**(60-74)** ***Good***	**(75-100)** ***Excellent***
(CPMK 1 and 3) Sub- CPMK 4 and 5	Comprehensiveness of case discussion in the paper (40%)	Incomplete report conveys analysis and solution of case discussion	The report fully conveys the analysis and solutions to the case discussion but is presented in an unsystematic manner.	The report completely conveys the analysis and solutions of the case discussion and is presented systematically.	The report completely conveys the analysis and solutions to the case discussion, presented systematically and supplemented with supporting information.
	Relevance of the arguments given in explaining the case (20%)	The arguments in the report are unclear and do not correspond to the case issues.	The arguments in the report are unclear and do not correspond to the case issues.	The arguments in the report are clear and appropriate, but the writing is less systematic.	The arguments in the report are clear and appropriate, understandable, and written systematically.

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	Systematics of the paper (10%) The report is prepared with The report is prepared with incorrect writing system	The report is prepared with a correct writing system but is incomplete.	The report is prepared with a correct and complete writing system.	The report is prepared with a correct and complete systematic approach, supplemented with appropriate supporting information.	
	Presentation of the material delivered (5%)	The material is incomplete and presented irrelevantly	The material presented is complete and relevant but presented in an uninteresting manner.	The material presented is complete and relevant and presented in an interesting way.	The material presented is complete and relevant and presented in an interesting and systematic manner.
	Mastery of presentation material (presentation and question and answer) (10%)	The presenter does not/most of them do not master the presentation material being delivered	The presenter masters some of the presentation material being delivered.	The presenter masters the presentation material being delivered	The presenter masters the presentation material being delivered and is able to link it to relevant information.
	Presentation skills (5%)	The presentation was delivered in a way that was not/less interesting	The presentation was delivered in a quite interesting way.	The presentation was delivered in an interesting manner	The presentation was delivered in a very interesting manner.
	Individual activity/ contribution in the group (10%)	Team members are inactive and not participating in the work	Team members are active and participate in the work but not with full responsibility.	Team members are active and participate in the work with full responsibility.	Team members are active and participate in work with full responsibility and dedication.

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Assignment Assessment Rubric (Case-based method) (Case 2)

Group Number:	
Member's Name/BP No.:	
1	
2	
3	
4	
5	
Learning Outcomes of the Subjects Assessed:	
CPMK 1. Demonstrate a responsible and honest attitude towards work in the field of poultry nutrition independently (ILO 1)	
CPMK 3. Able to apply technology in the field of poultry nutrition science to solve problems in the field of poultry nutrition and find solutions. appropriate and effective solutions (ILO 3)	
Sub-Course Learning Outcomes assessed:	
Sub-CPMK 6: Students are able to explain the meaning and classification of minerals for poultry, macro minerals for poultry, and micro minerals for poultry.	

CP-MK/ Sub- CPMK	***Criteria***	**(45-49)** ***Inferior***	**(50-59)** ***Average***	**(60-74)** ***Good***	**(75-100)** ***Excellent***
(CPMK 1 and 3) Sub- CPMK 6	Comprehensiveness of case discussion in the paper (40%)	Incomplete report conveys analysis and solutions to case discussion	The report fully conveys the analysis and solutions to the case discussion but is presented in an unsystematic manner.	The report completely conveys the analysis and solutions of the case discussion and is presented systematically.	The report completely conveys the analysis and solutions to the case discussion, presented systematically and supplemented with supporting information.
	Relevance of the arguments given in explaining the case (20%)	The arguments in the report are unclear and do not correspond to the case issues.	The arguments in the report are unclear and do not correspond to the case issues.	The arguments in the report are clear and appropriate, but the writing is less systematic.	The arguments in the report are clear and appropriate,

Machine Translated understandable, and written systematically.

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	Systematics of the paper (10%)	The report was prepared with incorrect writing system.	The report is prepared with correct writing system but is incomplete.	The report is prepared with a correct and complete writing system.	The report is prepared with a correct and complete systematic approach, supplemented with appropriate supporting information.
	Presentation of the material delivered (5%)	The material is incomplete and presented irrelevantly.	The material presented is complete and relevant but presented in an uninteresting manner.	The material presented is complete and relevant and presented in an interesting way.	The material presented is complete and relevant and presented in an interesting and systematic manner.
	Mastery of presentation material (presentation and question and answer) (10%)	The presenter does not/most of them do not master the presentation material being delivered	The presenter masters some of the presentation material that is delivered.	The presenter masters the presentation material being delivered	The presenter masters the presentation material being delivered and is able to link it to relevant information.
	Presentation skills (5%)	The presentation was delivered in a way that was not/less interesting	The presentation was delivered in a quite interesting manner.	The presentation was delivered in an interesting manner	The presentation was delivered in a very interesting manner.
	Individual activity/ contribution in the group (10%)	Team members are inactive and not participating in the work	Team members are active and participate in the work but not with full responsibility.	Team members are active and participate in the work with full responsibility.	Team members are active and participate in work with full responsibil

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1.4 Assessment Rubric

Project Progress Assessment Rubric (part 1)

Group Number:

Member Name/No.BP:

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Course Learning Outcomes assessed: CP-MK-1.

Students are able to identify the needs and constraints of a design project (CP-2; PI-1, CP-4; PI-3); CP-MK-2. Students are able to select methods, data, data collection techniques, data presentation techniques, and engineering standards.
to complete the design project (CP2;PI1,CP4-PI3);

Course: TIN60138 Design Project

CP-MK	*Criteria*	1 ***Inferior***	2 ***average***	3 ***Good***	4 ***Excellent***
1	*a. Problem Identification*	The problems identified are not in accordance with the design project theme	The problems identified are as follows with the theme of the design project but not well explained	The problems identified are as follows with the theme of the design project and it has been explained well	The problems identified are as follows with the theme of the design project and has been explained well and presented systematically
	b. Background of project selection *c. Results of project needs identification (IT knowledge, IT skills, and resources aspects)*	Unable to explain the identification aspect well project needs.	Only able to explain well one of the three aspects of project needs identification		
	d. Constraint/ project boundaries considered	There is only 1 constraint that is properly considered in the project	There are 2 constraints that are properly considered in the project		

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		The information presented is complete and has been illustrates the importance of the project planning is implemented Able to explain well two of the three aspects of project needs identification There are 3 constraints that are properly considered in the project	The information presented is complete, illustrates the importance of the design project being implemented, and is prese nted syste matic ally. Able to explain well all aspects of project needs identification More than 3 constraints that are properly considered in the project		
2	*a. Methods used*	The methods used in the design project are not appropriate	The methods used in the design project are appropriate but	The methods used in the design project are appropriate and	The methods used in the design project are appropriate and used appropriately and systematically

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			not used properly	used properly	
	b. Data used	The data used in the design project is not accurate	The data used in the design project is accurate but incomplete.	The data used in the design project is accurate and complete.	The data used in the design project is accurate and complete and is presented systematically.
	c. Technology Data Collection Used	The data collection techniques used are not accurate.	The data collection techniques used are accurate but incomplete.	The data collection techniques used are accurate and complete.	The data collection techniques used are appropriate and complete and are presented systematically.
	d. Data Presentation Techniques Used	The data presentation technique used is inappropriate	The data presentation technique used is accurate but incomplete.	The data presentation technique used is appropriate and complete.	The data presentation techniques used are appropriate and complete and are presented systematically.
	in. Engineering Standards which is used	There is no standard techniques used appropriately on the project planning	There is 1 technical standard which is used appropriately in design projects	There are 2 technical standards which is used appropriately in design projects	More than 2 engineering standards used appropriately on the project planning

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Project Progress Assessment Rubric (part 2)

Group Number:

Member Name/No.BP:

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Course Learning Outcomes assessed: CP-MK-3.

Students are able to develop alternative project designs (CP-2;PI-2); CP-MK-4. Students are able to select the best design alternative based on the established criteria (CP-1;PI-3, CP-4;PI-3); CP-MK-5. Students are able to analyze and evaluate design results (CP-2;PI-3);

Course: TIN60138 Design Project

CP-MK	*Criteria*	1 ***Inferior***	2 ***average***	3 ***Good***	4 ***Excellent***
1	*Amount Alternative project design*	There isn't any alternative project designs provided	There are 2 (two) proposed project designs	There are 3 (three) proposed project designs	More than 3 (three) proposed project designs
2	*Evaluation alternative project design*	There isn't any alternative evaluation plan	Evaluation of alternatives project design is carried out based on appropriate criteria for a small subset of project design alternatives	Evaluation of alternatives project design is carried out based on appropriate criteria for most project design alternatives	Evaluation of alternatives project design is carried out based on appropriate criteria for all project design alternatives
3	*Analysis and Evaluation of results plan project*	Analysis and evaluation of results plan done wrong/ not exactly	Analysis and evaluation The results of the plan are not accurate.	Analysis and evaluation the design results are correct	Analysis and evaluation the design results are precise and systema

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Project Proposal Presentation Assessment Rubric

Group Number:	
Member Name/No.BP:	
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Learning Outcomes of the Subjects Assessed:

CP-MK-6. Students are able to present proposals and design project results and produce significant project outputs (CP-3;PI-1,3);

Sub CP-MK-6.1. Students are able to present design project proposals (CP-3;PI-1,3);

Course: TIN60138 Design Project

Sub CP-MK		Criteria			
		1 ***Inferior***	2 ***average***	3 ***Good***	4 ***Excellent***
6.1	*Presentation material structure*	The presentation material is not arranged sequentially or logically.	Most of the presentation material is arranged sequentially, but not logically.	Most of the presentation material is arranged sequentially and logically.	Presentation materials are arranged sequentially and logically.
	Presentation of material presentation	The presentation material is not accompanied by images, tables, graphs, etc. or is accompanied by images, tables, graphs, etc. but is not relevant to the presentation material.	The presentation material is accompanied by images, tables, graphs, etc., but is less relevant to the presentation material.	Presentation of presentation material is equipped with images, tables, graphs, etc. and is relevant to the presentation material.	The presentation material is presented with images, tables, graphs, etc. that are relevant to the presentation material and presented systematically.
	Equipment material presentation	*The material presented*	The presentation material covers only a small part of the project report.	The material presented is irrelevant	The presentation material covers most of the project report.

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The material presented is relevant but presented in an uninteresting manner.	Presentation materials include all project reports	The presentation material covers all project reports with the addition of relevant supporting information.
	The material presented is relevant and presented in an interesting manner.	The material presented is relevant and presented in an interesting and systematic manner.

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	Mastery of the material presentation	The presenter does not/most of them do not master the presentation material being delivered	The presenter masters some of the presentation material being delivered.	The presenter masters the presentation material being delivered	The presenter masters the presentation material being delivered and is able to link it to relevant information.
	Ability to answer questions	The presenter was unable to answer the audience's questions.	The presenter answered the audience's questions poorly.	The presenter was able to answer audience questions well	The presenter was able to answer the audience's questions very well.
	Presentation skills	The presentation was delivered in a way that was not/less interesting	Presentation delivered quite interestingly	Presentation delivered in an interesting way	The presentation was delivered in a very interesting manner.
	Speed and clarity of material delivery	The material was delivered at a fast pace and the pronunciation was unclear.	The material is delivered at a fast pace with clear pronunciation.	The material is delivered at the right tempo and the pronunciation is not clear.	The material is delivered at the right tempo with clear pronunciation.

	Teamwork Assessment Rubric
Group Number:	
Member Name/No.BP:	
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Learning Outcomes of the Subjects Assessed:	
CP-MK-7. Students are able to work in teams (CP-5;PI-1,2,3,4);	

Course: TIN60138 Design Project

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Sub CP-MK	Criteria	1	2	3	4
		Inferior	***average***	***Good***	***Excellent***
7	*Accept input, sharing information, and listening to other team members (peers)*	Team members are less willing to accept input, share information and listen to other team members.	Team members are willing to accept input, share information and listen to other team members.	Team members accept input well, share information and listen to other team members.	Team members are very receptive to input, share information and listen to other team members.
	Completion of work according to the established schedule	Team members are always late in complete the assigned task	Team members are often late in complete the assigned task	Team members are rarely late in complete the assigned task	Team members are always punctual in completing assigned tasks.
	Participate in work with full responsibility	Team members do not participate in the work	Team members participate in the work but not with full responsibility	Team members participate in the work with full responsibility.	Team members participate in the work with full responsibility and dedication.
	Respond to each other team member	Team members are less responsive to other team members in their work	Team members simply respond to other team members in their work.	Team members respond well to other team members in their work.	Team members respond very well to other team members in their work.

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Final Project Presentation Assessment Rubric

Group Number:

Member Name/No.BP:

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Learning Outcomes of the Subjects Assessed:

CP-MK-6. Students are able to present proposals and design project results and produce significant project outputs (CP-3;PI-1,3);

Sub CP-MK-6.2. Students are able to present the results of design projects (CP-3; PI-1,3);

Course: TIN60138 Design Project

Sub CP-MK		Criteria			
		Inferior		***Good***	***Excellent***
			1		**2 3 4**
6.2	*Material arrangement presentation*	The presentation material is not arranged sequentially or logically.	Most of the presentation material is arranged sequentially, but not logically.	Most of the presentation material is arranged sequentially and logically.	Presentation materials are arranged sequentially and logically.
	Presentation of presentation materials	The presentation material is not accompanied by images, tables, graphs, etc. or is accompanied by images, tables, graphs, etc. but is not relevant to the presentation material.	The presentation material is accompanied by images, tables, graphs, etc., but is less relevant to the presentation material.	Presentation of presentation material is equipped with images, tables, graphs, etc. and is relevant to the presentation material.	The presentation material is presented with images, tables, graphs, etc. that are relevant to the presentation material and presented systematically.

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Completeness of materials presentation	The presentation material covers only a small part of the project report.	The presentation material covers most of the project report.	Presentation materials include all project reports	The presentation material covers all project reports with the addition of relevant supporting information.
The material presented	The material presented is irrelevant	The material presented is relevant but presented in an uninteresting manner.	The material presented is relevant and presented in an interesting manner.	The material presented is relevant and presented in an interesting and systematic manner.

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	Mastery of the material presentation	The presenter does not/most of them do not master the presentation material being delivered	The presenter masters some of the presentation material being delivered.	The presenter masters the presentation material being delivered	The presenter masters the presentation material being delivered and is able to link it to relevant information.
	Ability to answer questions	The presenter was unable to answer the audience's questions.	The presenter answered the audience's questions poorly.	The presenter was able to answer audience questions well	The presenter was able to answer the audience's questions very well.
	Presentation skills	The presentation was delivered in a way that was not/less interesting	Presentation delivered quite interestingly	Presentation delivered in an interesting way	The presentation was delivered in a very interesting manner.
	Speed and clarity of material delivery	The material was delivered at a fast pace and the pronunciation was unclear.	The material is delivered at a fast pace with clear pronunciation.	The material is delivered at the right tempo and the pronunciation is not clear.	The material is delivered at the right tempo with clear pronunciation.

	Project Output Assessment Rubric
Group Number:	
Member Name/No.BP:	
1	
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~~Learning Outcomes of the Subjects Assessed:~~	
~~CP-MK-6. Students are able to present proposals and design project results and produce significant project outputs (CP-3;PI-1,3);~~	
Sub CP-MK-6.2. Students are able to produce significant project outputs (CP-3;PI-1,3);	

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Sub CP-MK	Criteria	1	2	3 4
		Inferior	***average Good***	***Excellent***
6.3	*Conformity of project outputs to requirements*	External suitability level projects with needs based on identification		Level of conformity project output with needs based on identification
		low problem	moderate problems	high problem very serious problem high
	Significance of project outputs as an	Project output as a technical plan is not	The project output as an engineering	Project output as a significant Project output

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ut	as	a	technical plan		
engineering design	significant		design is quite significaennt.gineering design	very significant	

	External attractiveness project (appearance/ aesthetics / other)	Project output is less attractive	The project output is quite interesting	Interesting project output	Project output very interesting

Project Proposal Report Assessment Rubric

Group Number:

Member Name/No.BP:

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Learning Outcomes of the Subjects Assessed:

CP-MK-1. Students are able to identify the needs and constraints of design projects (CP-2;PI-1, CP-4;PI-3);

CP-MK-2. Students are able to select methods, data, data collection techniques, data presentation techniques, and technical standards. to complete the design project (CP2;PI-1,CP-4;PI-3);

CP-MK-7. Students are able to work in teams (CP-5; PI-1,2,3,4)

Course: TIN60138 Design Project

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CP-MK	Criteria	1	2	3	4
		Inferior	***average***	***Good***	***Excellent***
7	*Report systematics*	The report was prepared with incorrect writing system.	The report is prepared with the correct writing system. but incomplete	The report is prepared with the correct writing system. and complete	Report prepared with systematics correct and complete plus with supporting information suitable
7	*Clarity and coherence report*	The report is unclear, not in accordance with the writing sequence	The report is unclear, less suitable for writing sequence	the report is clear, but poor writing sequential	clear report, can understood, written sequential
1,7	*Completeness of report contents related to problem identification and background*	Incomplete report convey identification of problems of the problem.	The report fully conveys the identification of the problem.	The report fully conveys the identification and background	Report with complete convey identification of problems and background
	back project selection	but the background project selection	and background project selection		
	project selection	project selection not/not quite right	project selection	with added supporting information	
1,7	*Completeness of report content related to*	Incomplete report convey knowledge and	Report with complete	Report with complete	Report with complete

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	complete technology knowledge and skills	Incomplete conveying some knowledge and skills of Engineering	The report fully conveys some knowledge and skills of Engineering	The report fully conveys some knowledge and skills of Engineering and engineering skills	Report with complete convey some knowledge and skills of Engineering and engineering skills
	Previous Industrial Engineering used	Previous industry which is used in project	Previous industry which is used in previously used in the project	Industrial Engineering Previous industries used in the project plus used in supporting information projects	previous industry Previous industries used in the project plus used in supporting information projects
2,7		*Completeness of report contents related to the technical standards used* in the project	Incomplete report deliver technique used technical standards used. in the project	The report fully conveys some of the technical standards used. in the project	The report fully conveys The techniques used are used in in projects plus projects	Report with complete convey the technical standards that supporting information
2,7		*Completeness of report contents related to methods and data*	Incomplete report convey some of the methods and data that	The report fully conveys the methods and data used in the project	The report fully conveys methods and data that used in projec t	Report with complete convey methods and data that techniques
		which is used	used in project	methods and data used in the project	and data that used in projec t	techniques
2,7		*Completeness of report content related*	Incomplete report conveying techniques collection and	The report fully conveys some of the	The report fully conveys the collection	

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used in	project	added supporting information	Report with	complete convey	
	to data collection and presentation techniques	presentation of data used in	data collection and presentation		dat a col lec tio n
					an d pre se nta tio n pre se nta tio n
					of the dat a us ed in
	project	techniques used. used in project	used in project		project added supporting information

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Final Project Report Assessment Rubric

Member Name/No.BP:

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Learning Outcomes of the Subjects Assessed:

CP-MK-3. Students are able to develop alternative project designs (CP-2; PI-2);

CP-MK-4. Students are able to select the best design alternative based on the established criteria (CP-1;PI-3, CP-4;PI-3)

CP-MK-5. Students are able to analyze and evaluate design results (CP-2;PI-3)

CP-MK-7. Students are able to work in teams (CP-5; PI-1,2,3,4)

Course: TIN60138 Design Project

CP-MK	*Criteria*	1	2	3	4
		Inferior	***average***	***Good***	***Excellent***
7	*Report systematics* *Clarity and coherence*	The report was prepared with incorrect writing system. The report is unclear, not in accordance with the writing sequence	The report is prepared with the correct writing system. but incomplete The report is unclear, less suitable for writing sequence sequential	The report is prepared with the correct writing system. and complete the report is clear, but poor writing	Report prepared with systematic s correct and complete plus with supporting information suitable clear report, can understood, written sequential
7					
3,7	*report* *Completeness of report contents related to alternatives*	Incomplete report *proposed plan*	Report with convey alternative plan project	The report is complete and complete, conveys	Report with

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alternative project designs,
but the project is presented
and presented in a systematic
manner.

complete convey
alternative plan
projects, presented
in a systematic,
and
plus information
supporters

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4,7	*Completeness of report contents related to evaluation of alternatives plan*	Incomplete report convey alternative evaluation project design	The report fully conveys the evaluation of alternative project designs but is presented in an unsystematic manner.	Report with complete receive deliver alternative evaluations evaluation of alternative project designs, project design and presented in a presented systematically	Report with complete systematic, and plus information supporters
5,7	*Completeness of report content related to analysis and evaluation of results final plan* result	Incomplete report convey analysis and evaluation final design project	The report fully conveys the analysis and evaluation. final design result project but presented unsystematic	The report fully conveys the analysis and evaluation. final design result project and presented systematically	Report with complete and welcoming analysis and evaluation the result of my plan project, presented and added info supporters

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Mid-Term Exam Assessment Rubric

Name/BP No:
Learning Outcomes of the Subjects Assessed:
CPMK-1 Demonstrate a responsible and honest attitude towards work in the field of nutritional science independent poultry farming (ILO 1)
Sub-Learning Outcomes of the Courses Assessed: Sub-CPMK 1
(CPMK 1) Students are able to explain the meaning of nutrition, poultry nutrition, parts of the digestive system, digestive system, nutrients that are important for poultry and their respective functions **Sub-CPMK 2 (CPMK 1)** Students are able to explain the meaning and classification of Carbohydrates (KH), sources of KH for poultry, digestion of KH in poultry, absorption of KH in poultry, metabolism of KH in the body of poultry, and the provision of types of KH in poultry **Sub-CPMK 3 (CPMK 1)** Students are able to explain the meaning, classification, and function of lipids, important fatty acids in poultry, sources of lipids for poultry, digestion and absorption of lipids in poultry, lipid metabolism in the body of poultry, addition of lipids in poultry rations, and are able to explain the quality of lipids. **Sub-CPMK 4 (CPMK 1 and 3)** Students are able to explain the meaning and classification of energy, use and deposition of energy in poultry, food substances as sources of energy, energy requirements and factors that influence them, as well as calculating energy requirements in poultry. **Sub-CPMK 5 (CPMK 1 and 3)** Students are able to explain the meaning and function of protein, protein classification, amino acids for poultry, digestion and absorption of protein in poultry, utilization of protein and amino acids in poultry, protein and amino acid requirements in poultry, the relationship between certain amino acids in poultry, the effects of protein deficiency and excess and amino acids in poultry **Sub-CPMK 6 (CPMK 1 and 3)** Students are able to explain the meaning and classification of minerals for poultry, macro minerals for poultry, and micro minerals for poultry **Course:** PT146

Criteria	**Max Points**	**Points**	**Notes**
Accuracy in answering mid-term exam questions	**50**		
Doing mid-term exams individually (Honest and non-cooperative)	**50**		
Total	**100**		

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UAS Scoring Rubric

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Name/BP No:

Learning Outcomes of the Subjects Assessed:

CPMK-1 Demonstrate a responsible and honest attitude towards work in the field of nutritional science independent poultry farming (ILO 1)

Sub-Course Learning Outcomes assessed: Sub-CPMK 7 (CPMK 1)

Students are able to explain the function of water for poultry, water sources for poultry, factors that influence water needs in poultry, the effects of excess water consumption in poultry. Students are able to explain the meaning of vitamins, the classification of vitamins that are important for poultry, explain fat- soluble vitamins for poultry, and water-soluble vitamins for poultry.

Sub-CPMK 8 (CPMK 2, 3 and 4) Students are able to understand plant-based feed ingredients for poultry, animal-based feed ingredients for poultry, other feed ingredients for poultry, additional non-nutritional feed ingredients for poultry (Additive Feed Ingredients).

Sub-CPMK 9 (CPMK 2, 3, and 4) Students are able to understand the basics of preparing poultry rations, and methods. poultry ration preparation.

Sub-CPMK 10 (CPMK 2, 3, and 4) Students are able to understand the form and method of providing poultry rations, and are able to explain the frequency/time of providing rations to poultry.

Sub-CPMK 11 (CPMK 1) Students are able to understand the implementation of research in the field of poultry nutrition. **Course:** PT146

Criteria	Max Points	Points	Notes
Accuracy in answering UAS questions	**50**		
Doing the final exam individually (Honest and non-cooperative)	**50**		
Total	**100**		

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Practical Assessment Rubric:

Practicum

Group Number:	
Member's Name/BP No.:	
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Learning Outcomes of the Subjects Assessed:	
CPMK-1 Demonstrate a responsible and honest attitude towards work in the field of poultry nutrition independently (ILO 1)	
CPMK-2 Able to demonstrate knowledge and technology in the field of innovative poultry nutrition science on poultry nutrition commodities (feed, ration preparation and the relationship between feed and poultry production (ILO 2)	
CPMK-3. Able to apply technology in the field of poultry nutrition science to solve problems in the field of poultry nutrition and find appropriate and effective solutions (ILO-3)	
CPMK-4. Using logical thinking, creative thinking, critical thinking, and collaborative thinking in solving cases and projects in the field of animal nutrition. poultry (ILO 4)	
Sub-Course Learning Outcomes assessed:	
Sub-CPMK 1 (CPMK 1) Students are able to explain the meaning of nutrition, poultry nutrition, parts of the digestive system, digestive substances important foods for poultry and their respective functions	
Sub-CPMK 4 (CPMK 1 and 3) Students are able to explain the meaning and classification of energy, use and deposition of energy in poultry, food substances as sources of energy, energy requirements and factors that influence them, as well as calculating energy requirements in poultry.	
Sub-CPMK 5 (CPMK 1 and 3) Students are able to explain the meaning and function of protein, protein classification, amino acids for poultry, digestion and absorption of protein in poultry, utilization of protein and amino acids in poultry, protein and amino acid requirements in poultry, relationship between certain amino acids in poultry, effects of deficiency and excess of protein and amino acids in poultry	
Sub-CPMK 9 (CPMK 2, 3, and 4) Students are able to understand the basics of preparing poultry rations, and methods of preparing poultry rations.	
Course: PT146	

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CP-MK/ Sub- CPMK		~~(45-49)~~ ***Criteria***	~~(50-59)~~ ***Inferior***	~~(60-74)~~ ***Average*** ***Good***	~~(75-100)~~ ***Excellent***
CPMK 1-4 Sub CPMK 1, 4, 5, and 9	Collaboration/ contribution within the group	Team members are inactive and not participating in the work	Team members are active and participate in the work but not with full responsibility.	Team members are active and participate in the work with full responsibility.	Team members are active and participate in work with full responsibility and dedication.
	Mastery of practical material	The group did not/ most of them did not master the practical material being carried out	The group has mastered some of the practical material that was carried out	The group has mastered the practical material being carried out	The group masters the practical material carried out and is able to relate it to relevant theories.
	Completion of practical work according to the established schedule	The group is always late in completing the given practical stages	Groups are often late in completing the given practical stages.	The group is rarely late in completing the given practical stages.	The group is always on time in completing the given practical stages.
	Conformity of practical results	The results of the group's practical work were completely inconsistent.	The results of the group's practical work are less than ideal, without any relevant reasons.	The results of the group practicum are less than satisfactory, accompanied by relevant reasons.	The results of the group's practical work were as expected.

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Practical Report Group

Number: Member's

Name/BP No.:

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Learning Outcomes of the Subjects Assessed:

CPMK-1 Demonstrate a responsible and honest attitude towards work in the field of poultry nutrition independently (ILO 1)

CPMK-2 Able to demonstrate knowledge and technology in the field of innovative poultry nutrition science on poultry nutrition commodities (feed, ration preparation and the relationship between feed and poultry production (ILO 2)

CPMK-3 Able to apply technology in the field of poultry nutrition science to solve problems in the field of poultry nutrition and find solutions. appropriate and effective solutions (ILO-3)

CPMK-4 Using logical thinking, creative thinking, critical thinking, and collaborative thinking in solving cases and projects in the field of poultry nutrition (ILO 4

Sub-Course Learning Outcomes assessed: Sub-CPMK 1

(CPMK 1) Students are able to explain the meaning of nutrition, poultry nutrition science, parts of the digestive system, digestive system, nutrients that are important for poultry and their respective functions **Sub-**

CPMK 4 (CPMK 1 and 3) Students are able to explain the meaning and classification of energy, use and deposition of energy in poultry, food substances that are sources of energy, energy requirements and factors that influence them as well as calculating energy requirements in poultry.

Sub-CPMK 5 (CPMK 1 and 3) Students are able to explain the meaning and function of protein, protein classification, amino acids for poultry, digestion and absorption of protein in poultry, utilization of protein and amino acids in poultry, protein and amino acid requirements in poultry, the relationship between certain amino acids in poultry, the effects of deficiency and excess of protein and amino acids in poultry **Sub-CPMK 9 (CPMK 2, 3, and 4)** Students are able to understand the basics of preparing poultry

rations, and methods of preparing poultry rations **Course:** PT146

CP-MK/	**(45-49)**	**(50-59)**	**(60-74)**		**(75-100)**
Sub- CPMK	***Criteria***	***Inferior***	***Average***	***Good***	***Excellent***
CPMK 1-4 Sub-CPMK (1,4,5, and 9)	Report systematics	The report was prepared with incorrect writing system.	The report is prepared with correct writing system but is incomplete.	The report is prepared with a correct and complete writing system.	The report is compiled with a correct and complete systematic approach,

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supplemented with supporting information that is clear

Clarity and

The report is unclear, no

The report is not clear, the report is not clear, but the writing is not clear

and understandable.

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	the sequence of the paper	according to the sequence of writing	in accordance with the sequence of writing	less coherent	written in sequence
	Completeness of the contents of the paper related to the analysis and solutions to the case discussion	Incomplete report conveying the results and discussion of the practicum	The report completely conveys the results and discussion of the practicum but is presented in an unsystematic manner.	The report completely conveys the results and discussion of the practicum and is presented systematically.	The report completely conveys the results and discussion of the practicum, presented systematically and supplemented with supporting information.
	Punctuality	The group is always late in submitting reports.	Groups are often late in submitting reports	The group is rarely late in submitting reports.	The group is always on time in submitting reports.